# Exploring the Relations between Social Presence and Individual and Social/Shared Metacognition in Learners within a Global Graduate Online Programme

Thesis submitted in accordance with the requirements of the University of Liverpool for the degree of Doctor of Education by

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# DEDICATION

This work is dedicated to my parents. Life is not the same without them. I also dedicate this work to those who struggle to give others hope for a better life.

# ACKNOWLEDGEMENT

"And if you would count the graces of Allah, never could you be able to count them." Holy Qur'an 14:34.

Thank you Allah for providing me with reasons to accomplish this thesis research.

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# ABSTRACT

This thesis research is a qualitative case study that addressed online students and tutors in an international doctorate programme. The aim of this research project is to explore whether and how social presence and metacognition are related while devoting attention to the social aspect of the metacognitive process. Further, the thesis research aims at extracting practical insights in terms of online learning designs and theoretical insights regarding the development of the main concepts of the study. Data was collected using both individual and group semi-structured interviews with four tutors and ten students at the same online doctorate programme. The thematic analysis led to findings that support that, although a level of social presence was experienced by students and tutors, this level was not satisfactory for them. Indications of metacognition were present although socially shared metacognition was less evident. In general, participants expressed the belief that effective social presence supports deep learning outcomes such as metacognition. As for theoretical and practical insights, the findings support that identity performance is key to understanding social presence and the learning dynamics in online learning contexts. Furthermore, the findings led to the adoption of a new definition of social presence and some suggestions for online learning design.

# CHAPTER1: INTRODUCTION

Today is a typical working day for Laila. She returned home after a demanding working day. She had a quick late lunch, took a very short nap, and opened her laptop to write her last contribution to the weekly discussion. She read the recent responses of her class mates. One post in particular grasped her attention. She looked back at the main post she submitted at the beginning of the discussion week, reread one of the assigned readings, this time in more depth, and decided that she's got it all wrong. While Laila responded to her colleague, she couldn't help thinking that she could have written a smarter main post at the beginning of the week had she taken notice of the concept her colleague was referring to in his post. After submitting her response, she felt so relieved that she could submit all her posts on time for the current learning week, and let go any thoughts about 'smarter' main posts. After all, a new theme is to be discussed in the next learning week starting tomorrow. Next week represents a real challenge for her because it includes a religious 3-days Holliday through which she is supposed to do certain rituals and attend some social events. Neither her teacher nor her class mates knew about this Holiday. How could they? They are globally dispersed of varied cultures and backgrounds, and she never submit a discussion post including anything other than the learning tasks. Even when she does team learning tasks, she engages in discussions about accomplishing the team assignment, and rarely comes across her daily activities or personal life.

Such is Laila's life as a graduate student pursuing an online degree. Laila chose online education because she didn't want to interrupt her career progress, and couldn't afford studying abroad without the salary she receives for her current job. Laila found that the design of the online programme satisfied her need for flexibility as a working woman. However, when Laila sat to write her weekly reflections about her learning progress, she felt that something is missing. She needed to capture those precious moments through which she reconsidered her thoughts and share them with others. She needed to discuss them with her teacher and

colleagues. Considering the stressful learning design of the programme, sharing such thoughts with the class seems to be an unaffordable luxury.

Laila is a fictitious representation (albeit one based on experience) of an online student doing a degree with a global learning community, and the scenario for her day can be thought of as a typical day for an online student. The scenario is partly a reflection of my own experience as an online student. It also reflects some aspects of the views of the participants who were interviewed in this thesis. This imaginary scenario implies some of my motivations for embarking on this thesis journey; what balances are there to maintain when designing online learning?

Looking for balances is not something new to me. During my career in the field of education I contributed to the development of new curriculums, I trained teachers to upgrade their classroom performance, I assessed the performance of educational institutions, and of course I taught students at varied levels. In each of these tasks, there was a balance that I sought: Including a good quantity of knowledge while upgrading the quality of learning, benefitting from virtual possibilities while not ignoring the real life experience, allowing trainees to have fun while achieving deep learning outcomes in the form of skill acquisition, and so on. During my experience as an online student, I found myself looking for the philosophy underpinning the programme I am studying at. It fascinated me that the programme relies on peer to peer interaction, student-tutor interaction, and group work although learners are globally dispersed. On the other hand, the programme seems to assume the creation of new knowledge as learning outcomes. My reflections on the programme led me to identify the social aspect of the learning process and the deeper learning outcomes as concepts that need some exploration. However, my later readings, and mainly those in the Community of Inquiry framework were what motivated this thesis research.

Online education has opened new horizons for education, and more precisely distance education. While the old designs of distance education were about developing an engagement between the learner and the assigned readings, the recent designs are about developing deeper learning through the social interaction among the learners, and the creation of new knowledge while learners interact with the tutor, the assigned readings, and other learners. It is the centrality of the social aspect of the learning experience that made the contemporary version of distance education, online education, a hot topic for research. With the teacher as facilitator or orchestrator of knowledge replacing traditional conceptions of teacher as source of all knowledge, the role of peer to peer interaction and group work is gaining more importance. In other words, the way online education invests in the social engagement of the learning community to produce deep learning is key to sustaining a vibrant learning environment.

It might be thought that online education is the answer for the demands of massification in higher education since it provides easily accessed learning spaces without the need to interrupt the learners' flow of life activities by travelling to the campus. This way higher education institutions can deal with more learners without increasing their campuses. However, my recent experience as an online student made me reflect on the value online education can add in regards to developing the global citizen. Online learning programmes provide spaces for people to get to know about a variety of cultures and systems of belief. Of course, other online social spaces exist for people to interact and get to know each other. However, it is through learning together that people get to know how others think and what systems of belief they hold. Active learning spaces allow learners to interact and get to know how others approach their daily challenges. Further, in active learning spaces learners reflect and refine the images they developed about others. Not only does online education represent a manifestation of how technology can serve education, but also it provides an opportunity to transcend geographical and political borders and bring together people of varied cultural and ethnic backgrounds to learn together in atmospheres that support more understanding and acceptance of each other. Looking at it through this perspective, online education might be the

perfect learning space to develop the global citizen. I believe that any addition to the theorization of the phenomenon of online education is actually another step towards this goal. So, what is it that this research would add in this vein? And what value can it add to the literature in the field of online education? These questions will be answered in the following sections of this chapter. However, before answering such questions, it is crucial to put this thesis in context by providing a brief description of its conceptual background.

## 1.1. Conceptual Background and Research Aims

Online education is gaining acceptance among students and Higher Education Institutions [HEI] as a new approach to distance education. According to Seaman, Allen & Seaman (2018), despite the decline in total enrollments in US Higher Education institutions between the years 2012 and 2016 online education enrollments continued to increase. In the year 2016, 31.6% of all US higher education students have taken at least one online education course and 14.9% of all US higher education students are taking exclusively online education courses (Seaman, et al, 2018). Online distance education courses according to Seaman et al (2018) are courses that use "one or more technologies to deliver instruction to students who are separated from the instructor and to support regular and substantive interaction between the students and the instructor synchronously or asynchronously" (p.5). Nonetheless, there are still skeptical views about online education. Despite the propaganda that accompanies online education that supports peer-to-peer interactions and group learning, or learning that emerges from social constructivism (Chen, Chiu, & Wang, 2012; Garrison & Akyol, 2013; 2015), online education is criticized as lacking real learning interactions and missing opportunities for deep learning (Rourke & Kanuka, 2009). The potentials of online education as a distance-based education embracing peer to peer learning and aiming at the creation of new knowledge in social contexts has attracted the attention of researchers and directed some research effort to study the social aspect of the learning process and the potentials for deep learning in online settings. One of the landmark research efforts in this regard was that of the developers of the

Community of Inquiry [CoI]. According to the CoI, the successfully active online learning spaces are playgrounds for three interactive presences; Cognitive Presence, Teaching Presence, and Social Presence (Garrison, Anderson & Archer, 2000; Garrison & Akyol, 2013, 2015). In the authors' later work they became more interested in deep learning in online settings, specifically metacognition, embarking on a mission of developing a metacognitive construct and a tool to measure it (Garrison & Akyol, 2013, 2015). They argued that the construct of metacognition is composed of three components; Knowledge of Cognition, Monitoring of Cognition, and Regulation of Cognition and provided descriptions of each component which made it possible for them to develop a quantitative tool to measure metacognition.

In the conclusion of Garrison & Akyol (2013), the authors argued that the social aspect of metacognition should be considered in any attempt to study metacognition. According to this, descriptions of the components of the metacognitive construct assumed a social dimension. Hence, socially shared metacognition emerged as a concept that deserves research interest, and for this thesis research, that implies a need to find out how social presence and metacognition are related. Using my own terms, that would mean discovering what balance we should seek with regards to social presence and metacognition when designing online learning.

Social presence emerged as a concept earlier than the development of the CoI or even the trend of online education (Biocca, Harms & Burgoon, 2003; Lowenthal, 2010). However, it gained further interest as educators and online learning designers became more involved in developing socially active learning contexts (Lowenthal, 2012; Lowenthal & Snelson, 2017). In the 1970's the concept of social presence was developed to describe how telecommunications impacted the ways people communicate. Later on, with the emergence of online education, the concept gained more importance from an educational perspective. Research effort focused on finding out how to develop new technologies to allow for socially active communications to serve education. One of the interesting approaches to developing socially active learning contexts to produce deeper, more reflective learning was that of Laurillard (2009). In her

Conversational Framework, Laurillard (2009) emphasized the role of feedback from peers and the teacher in the learning process if deeper learning outcomes are sought. Although she referred to many learning theories to build her framework for learning design, she highlighted social constructivism in her approach to learning design based on effective interactions between the learner and the teacher, and among learners (Laurillard, 2012). Laurillard (2012) provided insight into the social aspect of metacognition as she argued for the teacher's facilitation of group discussions which address content as well as learning processes and strategies. Her insights about online learning are interesting because she argues for challenging technology to serve educational needs rather than investing in technology alone (Laurillard, 2009). In the latter it is technology that drives education, and in the former it is education that drives technology, creating a shift in the relationship between education and technology. Laurillard further argued that

> A strong statement would also enable the learning designer to defend the use of digital technology as a unique form of educational technology, able to meet the challenging requirements of the nature of formal learning in ways that conventional methods cannot (Laurillard, 2009, p.6).

Laurillard's approach might be a good response to the criticisms of Rourke and Kanuka (2009) who expressed their dissatisfaction with the way technology is used in online settings. Nonetheless, to adopt such an approach to online learning it is crucial to explore further how the main players in the online experience interact. Further discussion of the central themes of this thesis research can be found in the literature review chapter. I will now return to the contribution of this thesis to the debate about the potentials of online education.

## 1.1. Context of Research Study:

The asynchronous online programme that was addressed as a case study of this research project is a graduate education programme at the doctorate level that is provided by a well-known European university that provides many other graduate and undergraduate face-

to-face programmes. The programme is 100% online since all its compulsory activities are online. After successfully accomplishing the nine taught modules, plus a tenth reflective module that accompanies all taught modules of the programme, and a total of six short master classes, students are ready to the doctoral thesis stage. Accomplishing the modules typically requires 30 months. While the modules are compulsory and assigned grades A* - F, students have some flexibility with the master classes which are graded simply pass/fail. Each module lasts for ten weeks, and the week is the unit of the learning design. The learning tasks of each week are composed of a combination of some of the following: individual participation in the discussion board as a whole group activity, learning team activities (small group work with the learning teams usually assigned by tutors) and individual hand in assignments. In the more advanced modules the learning tasks become dominated by learning team activities while the whole group activities gradually decrease. The program is designed on the assumption that new knowledge is created through discussions among learners and tutors, while assignments wrap up the learning that was achieved. Both tutors and students are globally dispersed and are professionals in their fields, and this makes it convenient to enjoy discussions in their 'learning community' in a way that puts learners at the centre of the learning dynamic, while tutors take the role of facilitators of knowledge creation. Further, students and tutors exchange roles, as students are encouraged to contribute to the learning of others in the learning community. Tutors were clear about their role from the beginning, as they explained that their contribution to the discussions are limited to highlighting some interesting views posted by students or explained in some of the assigned readings, asking questions about some of the initial posts, or posting some links relating to the discussions among learners.

The whole group activity/discussion board participation requires posting three to five posts weekly in addition to a longer main post in which each student is supposed to address the questions of the discussion task which tackle the theme of the week. Although students are assigned a set of compulsory readings they are encouraged to be critical and creative and seek other perspectives in other readings of their choice. The week starts on Thursday and the main post is due on the third day of the week (Saturday), and the discussion takes place in the rest of

the week. Tutors also facilitate the discussion during the week. Typically, in each module a student would write one to two formal assignments of about 1000 to 2000 words each, about 500 to 1000 words in each post to the discussion board, and as group they would submit some shared report of about 1000 words. Students get individual tutor feedback and grades at the end of each learning week for their main posts and contribution to the weekly discussion. Tutors also provide feedback for each of the other learning tasks; group work and formal assignments. In addition, tutors engage in discussions and frequently provide feedback that is accessible to the whole class in the discussion spaces.

## 1.2. Significance of the Study

This thesis research aims at contributing to the betterment of understanding the potentials of online education and how best to invest in this new phenomenon in a way that supports deeper learning outcomes. When compared to the old versions of distance education, online education is distinguished by its facilitation of the social interactions within the learning community in ways that produce new knowledge. It is the centrality of the social aspect of the learning process that makes this research project of value. Simply it explores the addition of social presence that gave distance education new life, and how this has impacted the educational goal that all educators seek, deep learning.

Investigating the interplay between the elements composing the online learning experience can be of value both for Higher Education Institutes [HEI's] wishing to invest in new educational technologies and for professional training providers who wish to enhance their professional development programmes. Where I live, in The Middle East, there might be an additional value in exploring-investing in online education in both fields; as for HEI's, the experience of online programmes is relatively new. Only a few Middle Eastern universities are currently offering online programmes. Exploring the theoretical frameworks and the relational factors behind online programmes at other universities and investigating some successful

online learning programmes in leading universities can be of value for HEI's in the Middle East region hoping to follow this global trend. On the other hand, my current institute, the Ministry of Education in Jordan, provides professional development training for the employees, and investing in online training seems to be a good answer to many pressing issues. Nonetheless, expanding the capacities of online education, as a relatively new phenomenon, is an ambitious target for many researchers and academic institutions (Kalman & Leng, 2007; Allen & Seaman, 2010; Laurillard, 2012; Seaman et al., 2018).

Although considerable research effort has been dedicated to exploring and theorizing both themes of this thesis research, metacognition and social presence, there are still some gaps that need further exploration. For instance, there seems to be a shortage in research tying up both themes in online contexts. Further, the concept of social presence is defined differently by varied researchers, and sometimes confused with other concepts (Lowenthal & Snelson, 2017). On the other hand, the social aspect of metacognition is still a concept to be explored since few attempts have been made in this regard. Further explanations about the gaps in literature are available in the literature review chapter.

## 1.3. Focus of the Thesis Research, and Organization of the Thesis Report

This thesis research is structured in seven chapters, including this introduction chapter, which are organized to reflect the logical approach of the research study;

In the following chapter, the literature review, the findings of previous research about social presence and metacognition are explored in regards to online learning settings. The chapter is divided into sections to address how each of the themes of the thesis were explored in previous research including the practical aspects which relate theoretical findings to learning design issues. The chapter also identifies some gaps in the literature, mainly how social presence and deep learning are related, hence providing a case for this thesis research. The

literature review chapter leads the reader to the research questions for this thesis which emerged out of my interest as a researcher and in response to the gaps in existing research.

A global graduate online program was chosen for the case study of this thesis research. Qualitative data was collected through a combination of semi-structured individual interviews and group interviews with a total of 10 student participants and 4 tutor participants. Collected data was transcribed and thematically analyzed. Detailed description of the methodology applied in this thesis research is to be explained in the third chapter, the methodology chapter. Further, a discussion of the reasons behind my choices of the methodology and its tools is provided.

My research findings are reported in two separate chapters; in chapter 4 the findings of the thematic analysis of interviews with student participants are described, and chapter 5 presents the findings from tutor participants. The discussion chapter, Chapter 6, provides a comparison and contrast between the findings of the two data sets and how they relate to the themes and the meta themes which combine related themes together. Further the discussion chapter relates the findings of this research project to the literature highlighting the divergences and convergences. The conclusion chapter returns to the research questions at the heart of the thesis, therefore recommendations for future research and for practitioners in the field of online learning design are drawn out.

# CHAPTER 2: LITERATURE REVIEW

The emergence of online education paved the way for a paradigm shift in distance based education: distance learning is no longer a lonely process. Before online education, distance-based students used to interact with the written instructions and the readings to individually produce the learning products that assure the learning task is accomplished. With the advancement of technology, virtual learning contexts allowed for more social interaction among students. Hence, the adoption of collaborative learning was no longer restricted to face-to-face learning contexts.

The emerging phenomenon of online education became the subject of a considerable research effort. Before proceeding to discuss the possibilities that online education brought, it is of value to define online education. According to Bejerano (2008), any education that uses the internet as a medium for communication for at least 80% of the instructions, regardless of being synchronous or asynchronous, is online education. Bejerano's definition was adopted to guide the review of previous literature for this research study.

Despite the apparent acceptance of online education as reflected through the results of recent studies (Allen & Seaman, 2010; Kalman & Leng, 2007; Lowenthal, 2010; Yuan & Kim, 2014; Seaman, Allen & Seaman, 2018) there are researchers who show skepticism regarding the value and quality of online education either for students or tutors. In this regard, Rourke and Kanuka (2009) argued that in the 'Community of Inquiry Framework', which is a theoretical framework that describes successful online leaning settings, deep learning is unlikely. Rourke and Kanuka further referred to online students' beliefs about the learning they acquire and described it as "lower-level, factual knowledge" (p.43). Rourke and Kanuka (2009) criticized the online learning design for the amount of coursework it demands, and the negative impact of that on online students' capabilities to reflect and achieve deep learning. Another critique was pinned down by Bejerano (2008) as the online learning context was thought to deprive students

of good opportunities for success since it minimizes "opportunities for students' academic and social integration into the educational institution or learning environment" (p.411). Bejerano further casted doubts on the possibility of achieving higher order learning outcomes, or the efficiency of "skill-based instruction", and provided the example of public speaking as a challenging skill to be taught through online education (p.413). Bejerano (2008) described online settings as discouraging contexts when "peer-to-peer learning" is concerned (p.412). Lack of interaction was also raised by Allen and Seaman (2006), however, this time the authors were referring to student-teacher interaction as they argued that teachers are not aware of the learning needs of individual students due to the lack of interaction or because students do not have the proper efficacy to seek feedback and support from teachers.

Fortunately, this dim image about online learning is diminishing; change in attitude towards online learning had its roots as early as the beginnings of computer mediated conferences. Researchers became interested in studying human behavior in virtual media, and the potentials such media can provide to facilitate human interaction. Initially, this interest was focused on the extent to which a medium can be social, but later on investing the sociability of the medium for educational needs attracted considerable research effort (Biocca, Harms, & Burgoon, 2003). The early interest in the sociability of virtual media quickly evolved and a new term, "social presence" emerged.

According to Akyol and Garrison (2011) the focus of research in the field of online education experienced a shift from exploring the possibility of achieving social presence in online settings to exploring the possibility of achieving "higher-order learning" (p.33). Metacognition has always been considered a deeper learning outcome, hence, it should not surprise us that the same two authors, in a later article, urged researchers to further explore metacognition as they stated:

> It would be extremely useful to develop a valid metacognitive construct and quantitative measure to enhance our understanding of collaborative inquiry based learning in online and blended learning contexts. (Garrison & Akyol, 2013, p.88).

In this study, the main themes are social presence and metacognition. Hence the literature review chapter includes separate sections for each theme in addition to a section on online learning design.

## 2.1. Social Presence

### 2.1.1. Theoretical Background

Ever since technology made Computer Mediated Communication [CMC] possible and adequate for academic use and collaborative production such as virtual conferences, researchers of varied disciplines found interest in the newly emerging field. Although such communication channels were of limited use during the 70's, theoretical attempts to describe the impact of the communication media on the communication process were active. One of the early attempts was the Social Presence Theory by Short, Williams, and Christie (1976), and the emphasis here was on telecommunications in general. The Social Presence Theory described sociability as an attribute of the communication media itself. Social presence was more related to the capacity of the media to allow the communicators to be salient and capable of interaction.

The Social Presence Theory was followed by more theoretical attempts such as the "Cuelessness Theory" by Rutter and the "Media Richness Theory" by Daft and Lengel which were developed in the 80’s, and the "Social Information Processing Theory" by Walther in the 90’s (Lowenthal, 2010). The main concern for these early researchers was the impact of the communication media on the social behavior of humans. However, there was a gradual change in the focus of research. While the former theories were putting much emphasis on the

sociability of virtual media and the crucial role of visual media, the Social Information Processing Theory by Walther criticized the previous theories for assuming that "task-oriented communication lacked relational and social communication" (Lowenthal, 2010, p.129). Further, Walther cast doubt on the assumption that the lack of visual media leads to no sociability, and criticized previous social presence theories for failing to acknowledge the cues that CMC can offer, which face-to-face communication cannot, and which can compensate for the cues which are "filtered out" in the CMC (Lowenthal, 2010, p.129). It is worth mentioning, however, that virtual communication channels were not considered for educational use at such an early era. Later on, with the emergence of online learning, social presence became the concern of researchers from an educational perspective.

There were many skeptical views about the potentials of online learning settings and their capability to produce deep learning outcomes. Unlike other distance education settings which assume learners' complete independence, theories of online learning were established within the framework of the Social Learning Theory developed by Bandura in1971. Lowenthal (2010) argued that according to Bandura's theory the social context of learning plays a vital role in the learning process because the human behavior is explained "in terms of continuous reciprocal interaction between behavioral, cognitive, and environmental influences" (p.103).

In a literature review by Biocca et al. (2003) that discussed how the concept and the theory of social presence evolved, the authors argued that the early theoretical work on social presence put more emphasis on "awareness of and representation of the other, the medium's capacity for social interaction, and, specifically, the presence or absence of verbal or nonverbal cues in mediated communication" (p.460). The growth of online learning resulted in some changes in focus.

In an attempt to describe the learning process in online contexts, the Community of Inquiry Framework [CoI] was developed by Garrison, Anderson, and Archer (2000). The CoI is a theoretical framework of online education that argued for a learning community whose members seek to develop their knowledge through mutual interaction between three presences: Teaching Presence, Cognitive Presence, and Social Presence. Social Presence plays the vital role of mediating the interactions that create knowledge. According to the developers of the CoI, Social Presence is

> … the ability of participants to identify with the group or course of study, communicate purposefully in a trusting environment, and develop personal and affective relationships progressively by way of projecting their individual personalities. (Garrison, 2012, p. 252).

Such a definition of social presence represents a shift in the locus of concern of researchers; for social presence is no longer the attribute of the CMC, but an ability and behavior of the learner/communicator. It is worthwhile mentioning however, that the definition of social presence in the CoI framework experienced some improvements as the framework continued to evolve. According to the CoI framework, social presence is composed of three components; 'affective expression', 'open communication' and 'group cohesion' (Garrison, Anderson, and Archer, 2000).

Despite the interest in social presence in CMC whether from the perspective of education or from a more general view there seems to be a lack of agreement on a definition of it (Biocca et al., 2003; Lowenthal, 2010; Lowenthal & Snelson, 2017). Biocca et al. (2003) reviewed the social presence literature and provided a classification of its definitions that reflected the development of the concept and highlighted the need for not only an agreed upon definition of social presence, but also an agreement on the approach to measure it. Further Biocca et al. (2003) shed the light on the research fields that can benefit from a more robust theory of social presence, and identified social cognition as one of those fields. Bearing in mind that any definition of social presence would naturally reflect the field of interest of the researcher, it is no wonder that Biocca et al (2003), who focus their interest in presences in

general, developed a simple yet comprehensive definition of social presence; "the sense of being together with another", yet the other might be the mind of another real human or a virtual mind (p.459).

Concerns about the sociability of online learning have not diminished. Just as the emergence of online learning witnessed skeptical views about its sociability (Rourke and Kanuka, 2009), some more recent researchers still voice these concerns. In a study by Cunningham (2015) that explored the potentials and affordances "of using Voki avatars" to improve the social presence of asynchronous text-based online classes, she argued that online classes, when compared to face-to-face classes, can be "impersonal and lack the simple but meaningful verbal and nonverbal cues and the overall social presence and immediate response-time" (p.34). Further, another study by Crosta, Manokore, and Gray (2016) that addressed online students at the doctorate level at a European university found that "social presence was less evident in the modules" when compared to cognitive presence and teaching presence (p.45).

The development of the concept of social presence as well as the theories of social presence was aligned with the development of measures of social presence. The first attempts to measure social presence considered quantitative approaches. Examples of these are the Social Presence Scale developed by Gunawardena and Zittle (1997), and the Social Presence and Privacy Questionnaire (SPPQ) developed by Tu (2002). One of the interesting conclusions of the review by Lowenthal (2010) was that more research is needed to develop measures of social presence that take into consideration the complexity of the construct such that more emphasis is focused on "the socially situated and contextual nature of social presence." (p.133). Use of qualitative approaches to investigate social presence seems to be a possible answer for Lowenthal's call.

### 2.1.2. Measuring Social Presence in Online Learning

The concept of social presence informed a great deal of research on online learning which resulted in some attempts to review the literature and identify trends in educational research related to social presence. One of the attempts that aimed at investigating the best practices and strategies to create online learning environments capable of promoting social presence was a literature review by Plante and Asselin (2014). The researchers used 11 articles that were filtered out of a pool of articles addressing social presence and published between 2006 and 2011. Articles used in the literature review were read to identify commonalities and themes to "develop best practices" (p.220).

Plante and Asselin generated the following results: The assumption that establishing a sense of social presence in online learning contexts is a challenge for teachers was confirmed. Further, the authors identified obstacles hindering active social presence; for example, missing visual cues due to the use of text-based language and the lack of immediacy. In addition, the consequences of such learning contexts on students were discussed, such as online students reporting "feelings of isolation", "not feeling real", lacking feelings of belongingness to the learning community, or "fearing they may have posted something incorrect" (p.220).

On the other hand, Plante and Asselin (2014) summarized the evidence-based practices that teachers can adopt to enhance social presence and promote a sense of community. In general, teachers who achieve active presence through initiating discussions, welcoming different points of views, and encouraging and appraising learners' contributions enhance the development of "a sense of community and trust in their students" (p.220). Interestingly, the compensation for the lack of visual cues in text-based communications through abbreviations, punctuations and the like found some opposing evidence in the reviewed literature; according to the findings of previous literature as discussed in (Plante & Asselin, 2014), such techniques are " distracting, inappropriate for use in reflection, and disruptive to the process of deep

thinking by students" (p. 221). Nonetheless, the literature seems to support posting personal photos by the learning community and sharing biographies as well as videotaped introductions as a means to create "a sense of community" and enhance social presence (Plante & Asselin, 2014, p.220). In addition, the incorporation of both synchronous and asynchronous communication was found to be of positive impact on the improvement of social presence in international online learning contexts. Interestingly, such impact is argued to last even after the formal learning courses end.

In a concluding paragraph by Plante and Asselin (2014) they argued that future research is needed to clarify "how positive outcomes can be further achieved in the online setting through the intentional engagement of faculty" (p.223). In general, the review article emphasized teachers' practices as a key factor impacting the development of a sense of social presence in online learning contexts. However, the role of the learning design was ignored. Furthermore, no real emphasis was devoted to the role of providing opportunities for learners to interact productively although this is a practical aspect of the learning process that can inform the process of learning design.

Studying social presence and how it is related to other variables or phenomena such as learning, students' satisfaction, or deeper aspects of learning has many challenges. In addition to the lack of agreement on what social presence is, there is the challenge of how to measure social presence (Biocca et al, 2003). As discussed earlier, early researchers tended to use quantitative approaches to measure social presence, while in later research the complexity of the social presence construct was acknowledged through the use of qualitative approaches. Nonetheless, some relatively old studies applied qualitative approaches, and some relatively recent studies have adopted quantitative approaches. An example of the latter is a study by Cobb (2011) in which the researcher aimed at finding out factors that contribute to a sense of community among online students of nursing.

The specific purpose of the Cobb's study was examining social presence in online nursing students and "its relationship to satisfaction and perceived learning" (Cobb, 2011, p.115). Cobb followed a quantitative approach in which two scales were used to measure social presence and learners' satisfaction. The scales were the ones developed by Gunawardena and Zittle in 1997. Each scale consisted of items scored on a five-point Likert scale, and both were tested for reliability and the test results were in support of previously established results in the literature. The study sample was composed of 129 students doing a pure asynchronous text-based online nursing course. The study was of a "descriptive, correlational design" (Cobb, 2011, p.116). SPSS was used to analyze the collected data in addition to some descriptive analysis. The findings of the study suggested high correlation between social presence and student satisfaction which reflected the comfort experienced by online nursing students as they communicated and interacted in the learning environment. Cobb further explained that the findings of the study support putting more emphasis on "the relationships, comfort, and community fostered and developed" within the online learning environment and less emphasis on the qualities of the communication media (p.118). Again, previous findings about teachers' best practices in online contexts such as initiating discussions, encouraging engagements and acknowledging different views were supported.

Moreover, the study findings suggested high correlation between social presence and perceived learning which Cobb argued to be in agreement with previous research, and mainly the findings of Richardson and Swan (2003).

One of the interesting attempts to examine social presence in online learning contexts was a two-stage study by Swan (2002); in the first stage, she employed an empirical approach to address all online courses offered by the State University of New York Learning Network [SLN]. Data was collected with the aim of investigating "correlations between 22 course design factors and student perceptions of satisfaction, learning, and interaction with instructors and classmates" (Swan, 2002, p.23). The study used an online survey that addressed all students

enrolled in the spring online courses of the year 1999 –about 3800 students. About 38% of the addressed students answered the multiple choice items of the survey, and the collected data was quantitatively analyzed. The findings revealed strong correlations between student perceptions and three factors which are "clarity and consistency in course design, contact with and feedback from course instructors, and active and valued discussion" (Swan, 2002, p.23).

This study was followed by a second stage study to explain its findings. The hypothesis for the second study was that the development of an interactive community is vital for the success of online learning and teaching. In the second study, "[a]total of 235 postings in 39 discussion threads, or approximately 10% of all postings in the course discussions, were examined" (Swan, 2002, p.36). The course was a graduate online course composed of four modules in education and it was offered in 2001. The chosen discussions were all students' submissions in the first 5 days of each of the four modules. The qualitative analysis of data categorized the indicators of social presence, in accordance to previous literature, as "affective responses, interactive responses, and cohesive responses" (Swan, 2002, p.36).

The findings of the study supported "an equilibrium model of social presence in online discussion which suggests that as affective communications channels are reduced, discussion participants use more verbal immediacy behaviors to support interaction among classmates" (Swan, 2002, p.23). In simpler words, the findings supported the view that learners have tendencies to increase the affective verbal behaviors –such as praising, using humorous comments, and so on- to make up for the lack of face-to-face communications. Such results confirm the vital role of social presence, and have implications for designers of online learning contexts about the importance of allowing and planning for active social presence.

Richardson and Swan (2003) conducted a mixed research study to explore the relationship between social presence and "students' perceptions of learning and satisfaction

with the instructor" (p.68). The 97 participants of the study were online students at Empire State College who completed some online courses in the year 2000 and responded to a survey at the end of the semester. The survey was the data collection tool of the study and it was a modification of the social presence scale developed by Gunawardena and Zittle (1997) to fit it to the learning context of the participants. The survey contained Likert-type items in addition to two open ended questions. Participants' perceived learning in six learning activities was addressed in the survey. The study followed a correlation design. The findings of the study supported a positive correlation between the overall perception of social presence and the perception of learning as well as the perceived satisfaction with the teacher. As for the individual six learning activities which were addressed in the survey, the findings of the study suggest significant correlations "between social presence and perceived learning for each of the six individual activities" (p.76). The analysis of the qualitative data collected from the two open-ended questions within the survey supported the quantitative findings. When participants identified the learning activities that were most beneficial to their learning they attributed their choices to reasons related to "interaction, feedback, and other students' perspectives and/or acknowledgement" (p.77). In other words, their reasons are related to their perception of the social presence of the others. Interestingly, this study addressed the learning activities which are almost typical in most online learning programmes. Although the researchers suggested that their findings should be considered when designing online programmes, and when training course instructors, they did not derive specific practical implications for learning designers. In their conclusion, they argued for a "better module for online courses" in which the emphasis is not only on providing information but also on incorporating "the social aspects of learning in both the design and instruction of online courses" (p.81).

Lowenthal (2012) followed a mixed research approach to explore how social presence manifest in asynchronous online threaded discussions. His participants were 19 students who were admitted to a graduate online course in education. All threaded discussions went through word count analysis, then content analysis using a modified version of the social presence indicators developed by the CoI authors, and finally two of the threaded discussions were

analyzed using constant comparison analysis. The chosen two discussions were identified as being of the highest and lowest social presence based on the results of the previous two analysis processes. The findings of the study suggested that students vary in the level of social presence they would prefer to support their online learning experience, and that social presence is highly contextual and is sensitive to many factors such as previous knowledge between community members, the learning task, and group size. Further, Lowenthal (2012) elaborately criticized the approaches used by the developers of CoI to measure social presence and casted doubts on the validity of giving equal weights to the developed indicators of social presence. Nonetheless, inferred guidance for online learning design was too limited.

Another approach by Robinson (2013) explored the social presence of online students in collaborative group work. Robinson conducted "a thematic analysis of students' unsolicited accounts of emotion and cognition when engaged in a collaborative task online" (p.301). The main question of the study was about the interrelation between the emotional experience and cognition of students in online contexts. The participants were 40 adult online students who were engaging in group work in a psychology formal education course in a higher education institute in UK, and their accounts were collected over a period of time from 2002 to 2010. The study concluded that group work is a source of emotions such as frustration, feeling constrains, difficulty, or lack of control due to lack of immediacy or to reasons related to technology.

Robinson (2013), in agreement with the findings of Lowenthal (2012), highlighted the point that online students often find it difficult or not encouraging to engage in discussions with other learners who they don't really know, which negatively impact their contribution. In her conclusion, Robinson (2013) recommended that "students who are required to engage in group work online adopt a range of verbal immediacy behaviors so that their peers can get to know and trust them" (p.306). Further, she suggested that such students need to be reminded of the benefits of group work for their learning in order to acknowledge the opportunity of being members in learning groups and engage in the learning process. Again no specific practical

implications for the learning design of online courses were derived from the findings of the study.

The impact of social presence on the learning outcomes and the cognitive presence was identified as a gap in literature by Lee (2014). In order to bridge the gap of the lack of full identification of "the relationship between cognitive presence and social presence" Lee (2014) conducted a study on two groups of graduate students in a Korean University (p.41). Further, Lee (2014) explored the relationship between "higher cognitive presence density" and the quality of learning or the "higher order thinking skills" (p. 41). The CoI was used to examine both cognitive and social presences. Participants were taking two different courses at the English Education department in a Korean university. The participants were grouped into two groups, A and B (13 and 10 students) according to the course they were taking, however the two courses were taught by the same instructor for the whole course period which extended for 15 weeks in the year 2011. Both participant groups were composed of a mixture of Korean-non Korean, female-male students.

The courses were of a blended learning model in which the face-to-face component is primary, and the online component is supplementary. The online component was meant to “expand the discussions and promote students' higher-order thinking skills” through discussion (p.43). Two sets of data were collected; messages from the discussion board, and individual semi-structured interviews with all participants at the end of the semester. Quantitative content analysis was applied on a total of 672 messages (303 and 369) collected from the online discussion all through the semester. To measure cognitive presence, messages were coded and counts for each cognitive level were accomplished. For the social presence, however, a frequency count was conducted for each category of social presence which were identified by the researcher. Percentages were then calculated for each category for later comparison. On the other hand, the transcripts of the interviews were used to supplement the quantitative analysis of the messages.

The content analysis of the messages revealed some discrepancies between the two groups; the messages of one group (Group A) were more than those of the other group (Group B). Further, participants of Group A produced longer messages of mixed nature and, unlike Group B, tended to initiate new threads in addition to those initiated by the instructor. Discrepancies in the quality of messages were also observed, while “the majority of messages” of Group A reflected both social and cognitive presences, it was “infrequent” for members of Group B to post messages reflecting the two presences (p.44). Using the words of Lee (2014); "the social presence density of Group A was observed to be much higher than that of Group B, and also higher than its own cognitive density." (p.45) In Group B, messages reflecting cognitive presence alone were of a “high ratio”, however, no messages of only social presence were posted (p.44).

The findings of the study suggested that "high cognitive density", as observed in Group B, was not associated with better learning quality: "most of the messages remained in the exploration phase and could not move much beyond that phase" (p.49). Interestingly, although Group A, who enjoyed higher social presence, had lower cognitive density, they seem to achieve learning outcomes of higher levels: "Group A had higher frequencies of integration and resolution than Group B" (p.49). Nonetheless, Lee (2014) confirmed the results of previous research by indicating that higher learning outcomes which are reflected in integration and resolution were less frequently observed and this led the researcher to argue that "active participation, interactions, and a learning community may not be enough for promoting higher-order thinking skills" (p.49). Such findings seem to support the critical views of Annand (2011). Annand argued that the impact of social presence on the cognitive processes was overstated. In his conclusion Annand (2011) recommended that future research should isolate the impact of social presence on deep and meaningful learning and determine the extent of social presence needed to support cognitive processes. It seems that the work of Lee (2014) represented a response to some of Annand’s recommendations. Taking into consideration that learning is a

complicated human activity, it should be highlighted that isolating the impact of social presence beyond the approach of Lee (2014) violates the contextual nature of social presence and the learning process.

Lee's (2014) findings are interesting not only because they provide insight regarding the relationship between cognitive presence and social presence, but because they tackle the higher order thinking skills and how they are related to both 'cognitive density' and social presence. Metacognition, as a higher order thinking capability, was not directly addressed in the study, however, Lee (2014) provides legitimacy for the exploration of the relationship between social presence and metacognition. The next section will explore more fully the concept of metacognition which provides a focus for this study.

## 2.2. Metacognition

### 2.2.1. Theoretical Background

The term metacognition was first described by Flavell (1979) simply as the capability of "cognition about cognition". Researchers have identified two components to metacognition: metacognitive knowledge and metacognitive regulation (Flavell, 1979; Zimmerman & Schunk, 2011; An & Cao, 2014). Metacognitive knowledge is achieved when the learner is aware of her/his own cognitive processes. Metacognitive regulation refers to a set of deep processes related to regulating the cognitive processes through "(1) planning, (2) monitoring, (3) evaluating, and (4) revising" (An & Cao, 2014, p.553).

Early attempts to explore metacognition were often focused on self-monitoring or control of self-cognition while ignoring that of others or the social aspect of metacognition (Jost, Kruglanski & Nelson, 1998). Soon, researchers became interested in the social aspects of the metacognitive phenomenon, and with this expanded interest the definition of metacognition developed further. Flavell (1979) identified "four classes of phenomena" through which monitoring of cognition or metacognition occur. These are: "(a) metacognitive knowledge, (b) metacognitive experiences, (c) goals (or tasks), and (d) actions (or strategies)" (p.906). Each of the phenomena pertains either to awareness of self/others knowledge, capabilities, learning approach, learning task, and level of accomplishment, or to control of self-strategies and approaches to achieving cognitive/metacognitive skills.

In a retrospective article that provided a review of the 'Theory of Mind', Flavell (2004) referred to a previous article by Flavell, Miller, and Miller (2002) to briefly define metacognition as "any knowledge or cognitive activity that takes as its object, or regulates, any aspect of any cognitive activity" (p.275). Such a definition, despite being brief, was comprehensive enough to be used in various contexts and domains of research. However, as metacognition received more research interest and attempts to promote and measure it were within variety of contexts and perspectives it received more elaborate definitions. Social psychologists, for instance, preferred to pin down the social aspect of the metacognitive process arguing that this domain of study should include "(a) beliefs about one's own mental states and processes as well as beliefs about those of other people, (b) momentary sensations as well as enduring folk theories, and (c) descriptive beliefs about how the mind works and normative beliefs about how it ought to work" (Jost, Kruglanski & Nelson, 1998, p.137).

The latter argument of Jost et al. seems to suggest a holistic view of social metacognition, which should be expected in a review article aiming at putting together the contributions of social psychologists to the development of the concept of metacognition. A deeper look at the components of social metacognition as described by Jost et al. shows that it

is limited to the awareness of the mental states of self and others and a set of beliefs regarding those states. What seems missing in their approach to metacognition are the strategies and attempts to control the mental state of self and influence the mental state of others.

It is worthwhile mentioning that the early interest in metacognition did not totally ignore the social aspect or the monitoring of learning. Flavell (1979) argued that metacognition is achieved through monitoring and controlling cognition and pointed out that metacognition is practiced while one explains her/his own thinking to self as well as to others. In his detailed examples and explanations of the "four classes of phenomena" through which cognitive monitoring occur, Flavell (1979) described how an individual experiencing the metacognitive process practices awareness of her/his cognition as well as the cognition of others, but narrowed the control of cognition to self without indicating the possibility of contributing to controlling the cognition of others (p.906).

### 2.2.2. Recent Research on Metacognition

Later researchers provided interesting definitions of metacognition in which the possibility of contributing to the metacognitive processes of others was considered. One of the practical attempts was by Hurme, Merenluoto, and Järvelä (2009). The authors proposed their operational definition to be used in an explorative case study that was conducted in a computer-supported collaborative learning context. Rather than exploring metacognition in general, the authors were interested in socially shared metacognition precisely. According to Hurme et al. (2009) "socially shared metacognition occurs when a group member's metacognitive regulation message contributes to the joint discussion about how to process a task" and the condition for such a message to be effective is not only to receive acknowledgement by other group members but also that they "further develop the message" (p.504). Hurme et al. (2009) further explained that a metacognitive message would typically aim at regulating the processes of accomplishing the learning task, where regulation can be in

the form of interrupting, changing or promoting such processes to direct them towards the task.

The aim of their study was to explore "how socially shared metacognition in group problem-solving can be related to group members' individual feelings of difficulty during mathematics tasks" (Hurme et al., 2009, p.505). To measure feelings of difficulty, the authors used "individual's retrospectively assessed perception of the task difficulty" (p.505). The participants in this case study were six pre-service elementary math teachers who were chosen arbitrarily from 45 students who volunteered to participate in a university-level course about math teaching which was focused on problem solving. The six participants were distributed into two triads who were introduced to the same set of math problems and were allowed to discuss the math problems assigned in the course via computer mediated communications although they were in the same computer classroom. Despite the asynchronous learning settings of the course, the group discussions were synchronous. The researchers followed a qualitative content analysis to analyze participants' messages during group discussions.

The results of the study indicated a positive impact of socially shared metacognition as it reduces individual feelings of difficulty. However, the authors argued that learners should clearly explain their thinking and acknowledge the ideas of the other learners in their group in order to make socially shared metacognition one of the outcomes of their interactions. In addition to the necessity of explaining processes and approaches to accomplishing the task, learners should also "make their feelings visible" to the learning group members (Hurme et. al, 2009, p.520). Interestingly, the results of the study suggest that superficial cognitive and social interactions among learning group members increase feelings of difficulty.

As the interest in collaborative learning contexts grew, some researchers found it a necessity to develop theoretical frameworks that can offer guidance to those who wish to

invest in the thriving field of online education. With the development of theoretical frameworks for online learning a question was posed about the possibility of achieving deeper learning outcomes such as metacognition and how to include them within the theoretical frameworks. One of the attempts was the Community of Inquiry theoretical framework [CoI]. The CoI was theorized to have three interactive components; teaching presence, cognitive presence, and social presence, as discussed earlier.

Akyol and Garrison (2011) decided to develop a metacognitive construct within the CoI framework which they argued to occur at the intersection between cognitive presence and teaching presence. In this regard; Akyol and Garrison (2011) defined metacognition as “a set of higher knowledge and skills to monitor and regulate manifest cognitive processes of self and others” (p.184). They developed the metacognitive construct to be composed of three dimensions: the first dimension is the "Knowledge of Cognition"[KC] in which the individual becomes aware of self-knowledge, and ready to get involved in the inquiry process (p.184). This state might be considered as a preparatory metacognitive state. The second dimension is the "Monitoring of Cognition" [MC] (Akyol& Garrison, 2011, p.184). In the second dimension, the learner reflects on action to assess the progression of learning and the effort needed to achieve the learning outcomes. To include the social aspect of metacognition, Akyol and Garrison (2011) emphasized that learners reflect not only on their contributions to accomplishing the learning task but also on the contributions of others. The third dimension is "Regulation of Cognition"[RC], and in this dimension learners enact and control "the learning process (reflection in action) which requires employment of strategies to achieve meaningful learning outcomes" (Garrison & Akyol, 2015, p.67).

The development of the metacognitive construct within the framework of the CoI can be traced in three articles; the first was by Akyol and Garrison (2011). The main purpose of the study was to develop a metacognitive construct and test it. Akyol and Garrison (2011) argued that the assessment approaches of metacognition in previous research relied mainly on the

assumption that learners are aware of their metacognition and are able to identify its processes. The authors cast doubt on this assumption, and set off to develop not only a metacognitive construct but also proper approaches to assess it in online, text-based learning contexts.

Akyol and Garrison (2011) followed a qualitative approach to analyze 16 graduate students' posts to a discussion board within an online course about blended learning. The course in question extended for 9 weeks, however, the researchers chose to analyze data from the beginning of the course (week 1), the middle (week 5), and the end (week 9), to explore the development of metacognitive capabilities over time. A total of 53 messages in week 1, 82 messages in week 5 and 76 messages in week 9 were collected. The researchers developed their own indicators in each dimension of metacognition according to their construct and used them in the transcript analysis process of the data. The single message was considered as the unit of analysis. Simple mathematical analysis was applied to find out the percentage of the occurrence of each of the three dimensions of metacognition in learners' messages over time. A comparison among the percentages showed that regulation of cognition increased steadily over time while knowledge of cognition was the least observed with some decrease over time.

The findings of the study supported the view that students' metacognitive capabilities can be demonstrated in online learning environments. Further, all three dimensions of metacognition were present in students' messages. The authors drew on the increase in regulation of cognition to suggest that the learners became more "metacognitively mature" with the progress of the course due to the course design which was guided by the CoI framework (Akyol & Garrison, 2011, p.189). Accordingly, the authors argued that the CoI framework can be used to guide learning designers to develop "an effective learning community" since "[a] community of inquiry provides an important function to diagnose and correct participants thinking" (p. 189). Hence, in effective learning communities, learners should be able to question their thinking and the thinking of others, communicate, explain, and

justify their thinking to others, provide feedback to others and respond to their feedback. Akyol and Garrison (2011) went even further as they suggested that the previously established presences of the CoI actually contribute to the metacognitive outcomes; "both cognitive presence (monitoring) and teaching presence (regulating) [have] metacognitive responsibilities" (p.189). The encouraging findings of this study paved the way for a second study to quantitatively validate the metacognitive construct. In an article published in 2013, Garrison and Akyol demonstrated the findings of a quantitative study in which they developed a questionnaire of 26 items and tested its validity. The items were guided by the indicators of each of the dimensions of the metacognitive construct previously developed and validated by Akyol and Garrison (2011). The questionnaire was addressed to graduate and undergraduate students at a large university in Canada. 76 students completed the questionnaire and the collected data was processed through factor analysis; "principal component analysis was conducted and a three factor solution was considered" (p.86). The results of the factor analysis showed that "the items under each factor were inconsistent with the three elements of the theoretically developed and qualitatively tested metacognitive construct" (p.86). The findings of the study at question lacked consistence with the qualitative findings in the first stage of the validation of the metacognitive construct conducted by the same two authors in 2011. Further, the authors pointed out that while the developed theoretical model and the qualitative validation distinguished between knowledge of cognition and monitoring of cognition, the quantitative approach was challenged at this task. Their rationalization was that theoretically, knowledge of cognition "is more static", while monitoring of cognition is more momentary since it involves in the moment judgments (p.87). On the other hand, in quantitative measurements "the focus is more on the outcome or product rather than the process itself" (p.87). In other words, the authors questioned the adequacy of quantitative approaches when it comes to exploring procedures rather than products. Further, the accuracy of students' "retrospective judgments" of their metacognition was questioned in the means of finding explanations for the discrepancies between the qualitative and the quantitative findings (p.87). Despite the discrepancies between findings of the two phases of the validation project the authors argued that the findings pointed to the vital role of "co-regulation of cognition" in

educational communities, and this led them to conclude that “the metacognitive construct need to be revised to reflect both individual and shared learning activities” (p.87). In a conclusive paragraph, the authors re-assured the value of the CoI framework and the comprehensiveness of its presences by stating that “each presence directly or indirectly contributes to the development of metacognition” (p.88).

In a later article, Garrison and Akyol (2015) reported on a study conducted to broaden the construct of metacognition in response to their previous findings by making the collaborative aspect of the learning process more salient in the metacognitive construct. Accordingly, the more recent version of the metacognitive construct had two dimensions; self-regulation and co-regulation and each element was hypothesized to have monitoring and managing elements. While the monitoring element is about awareness of the metacognitive processes whether related to self-regulation or co-regulation, the managing element is about the metacognitive strategies.

The developers of the new metacognitive construct did not hypothesize the independence of the two factors composing metacognition. On the contrary, they acknowledged the interdependence of self and co-regulation. Their approach to validate their construct was a quantitative approach. Garrison and Akyol (2015) developed a 54 items questionnaire that went through some refinements after being tested in a piloting stage of their study. The refined questionnaire was then used to address 292 graduate students from many universities across the US and Canada. 192 students responded to the questionnaire by including all the necessary data and these were considered for later analysis. More than half the respondents (107) were online students while the others were either on campus students or did not indicate the context of their programmes.

Findings of the study support that while self-regulation and co-regulation were validated as the main factors of the construct through principal component factor analysis, their sub-elements – monitoring of cognition and managing of cognition – were not separable. To explain this, the authors argued that "[l]earners move between monitoring activities (e.g., assessing learning) and managing activities (e.g., applying a new strategy to enhance learning) imperceptibly" (p.69). Nonetheless, they did not exclude the possibility of the inappropriateness of quantitative approaches to resolve this issue.

The research effort of some of the developers of the CoI framework to develop constructs that predict the deeper learning aspects of the online learning process inspired further research. While some researchers were more oriented towards theory, others set out to look for more practical issues. Some research effort started to focus on how to support online learners to improve their metacognition. A description of some research findings in this regard is discussed in the next section.

### 2.2.3. Research Effort to Identify Pedagogical Approaches to Support Metacognition in Online Settings

Within the effort to explore means to develop metacognition in asynchronous online contexts, Snyder and Dringus (2014) studied the impact of student-led online discussions on students' metacognitive capabilities. The researchers wanted also to examine where the metacognitive indicators, as outlined by Akyol and Garrison (2011), were evident in the online discussions. Snyder and Dringus (2014) designed their methodology in a way that examined the metacognitive construct and indicators which were developed by Akyol and Garrison (2011), and the metacognitive questionnaire that was later developed by Garrison and Akyol (2013).

The participants were 12 online students in a masters-degree programme who were doing a course about communities of practice. One of the researchers taught the course that extended for 14 weeks and applied student-led discussions. Two data sets were collected and analyzed in the study; participants' responses to a questionnaire of eight open-ended questions and the discussion forum transcripts. Six of the twelve students completed the questionnaire, and their responses were analyzed using the Interpretative Phenomenological Analysis to explore students' perception of the student-led discussions and how their perception reflected metacognitive processes. The second set of data, the discussion forum transcripts, were analyzed using two approaches: the first was content analysis in which the authors developed a coding guide with reference to the metacognition construct as developed by Akyol and Garrison (2011), and the metacognition questionnaire that was developed by Garrison and Akyol (2013). In general, the main purpose of the coding guide was to identify instances of metacognition within the framework of the CoI. The second approach to analyze the scripts was an inductive approach in which codes were developed from the data.

The results of the study showed that all dimensions of metacognition are evident in student-led discussions in online contexts. However, indicators of monitoring of cognition are the ones most recurring in the discussion transcripts, and indicators of regulation of cognition seemed to be the least evident. Further, the researchers found that students "take the role of facilitator seriously" and while playing the role they demonstrated metacognitive skills (Snyder & Dringus, 2014, p.43). The authors also acknowledged the need to inform and motivate students on how to facilitate online discussions and how to more effectively facilitate for the promotion of metacognitive skills. Moreover, the study results supported the use of student-led discussions in promoting metacognitive skills in asynchronous text-based online contexts.

The authors' recommendations for future research were in alignment with the gaps they identified in literature when they provided justification for their research: While their approach responded to the gap of the "limited methodological choices that have been applied in the

research to examine metacognition in online discussions" (p.32), they argued that more is needed in this regard considering that Akyol and Garrison (2011) used quantitative data derived from discussion transcripts in their analysis. Although they acknowledged the feasibility of the metacognitive construct that was developed by Akyol and Garrison (2011), the authors recommended that future research address the issue of effective analysis of data to track patterns of metacognition.

Snyder and Dringus (2014) also argued that more research is needed to answer the design-based question; what instructional strategies do promote metacognitive awareness and skills in online learning contexts? In their research study, Snyder and Dringus (2014) explored the capabilities of student-led discussions as a technique to promote metacognitive skills. However, the design of learning activities as a holistic process and its role in promoting metacognitive skills in learners was not tackled.

An and Cao (2014) conducted a study that aimed at investigating the impact of metacognitive scaffolding in students' processes to solve ill-structured problems in the domain of instructional design and exploring how metacognitive scaffolding impacts metacognitive skills such as planning, monitoring and evaluation. An and Cao followed an experimental approach to study 49 online graduate students of the Instructional Technology programme in the College of Education of a public university in US. Participants were divided into two groups; While both experimental and comparison groups received content-specific scaffolding, only the experimental group received metacognitive scaffolding. Both groups were given the same technology enhanced instructional design tasks.

The metacognitive scaffolding tool given to the experimental group was a planning sheet that has two main components; learning issues and a timeline. In the learning issues participants were requested to find out what learning issues they were supposed to deal with in

order to accomplish the task. In the timeline participants were requested to write down the activities they would engage in to achieve their goals and fulfill the required task. Further, participants were requested to determine the time needed for each activity.

The researchers followed a mixed methods research approach in which a wide set of quantitative and qualitative data was collected such as “online surveys, planning sheets, technology-enhanced lessons, and reflection papers”. The online surveys were administered twice for all participants to follow pre-and post-measures, the planning sheets were requested from the experimental group, the technology enhanced lessons were design tasks required from all participants and graded by one of the authors, then the grades were used as quantitative data. The reflection papers were produced by participants as part of the requirements of the course after each of the instructional design tasks. Repeated Measures ANOVA was used to analyze quantitative data such as participants’ grades and responses to surveys. While all sets of qualitative data were “examined, coded, and constantly compared to other data for thematic analysis” (An & Cao, 2014, p.560), some qualitative data sets were separately further analyzed for comparison.

The findings of the study support the view that metacognitive scaffolding positively impact learners’ metacognitive skills such as using time effectively. While the experimental group showed significant improvement in the planning skills between pre and post responses to survey items related to the planning subscale, the comparison group showed decrease in the same subscale according to the repeated measures ANNOVAs when age was used as a covariate. Qualitative analysis supported the quantitative findings since participants of the experimental group confirmed the positive impact of the scaffolding tool on their planning skills while some of the participants of the comparison group described how they struggled due to their poor planning.

On the other hand, both experimental and comparison groups used almost similar strategies in monitoring and evaluating their progress. Again, quantitative and qualitative analysis agreed on the insignificant impact of the metacognitive scaffolding offered on participants' monitoring and evaluation skills. Further, the results showed that there is no significant difference between the overall performance of both groups on problem solving when it comes to outcomes or solutions reached; i.e. the learning designs developed by both groups were of almost similar quality. The authors attributed the latter result to the content-specific scaffolding that was provided for both groups in the study. Again, the proposed approaches to enhance metacognition were limited to scaffolding tools. The learning design as a holistic process was not discussed in this study.

In the same vein, a study by Bokser, Brown, Chaden, Moore, Cleary, Reed, Seifert, Zecker, and Wozniak (2016) represents another example of research projects exploring the impact of certain pedagogies on metacognition. Although the study did not address online contexts, it is of particular importance because the researchers tried to use a pre-set coding system to analyze their data, then found it inadequate and developed their own codes that emerged from the data they collected and their own perspective of metacognition. In this specific case, the purpose was to scrutinize the claims that e-portfolios can enhance learners' metacognition and their analysis can reveal it.

One of the challenges the study intended to face was to analyze reflective e-portfolios of three populations of students who were enrolled in a variety of programmes, graduate student-teachers, standard entry undergraduates and mature part-time students.

For the data analysis, Bokser et al. (2016) referred to a coding rubric from previous literature. However, they neither found the pre-set rubric useful for the coding step, nor found it adequate to amend to meet the research requirements. Nonetheless, the researchers agreed that there was evidence that metacognition was reflected in participants' portfolios. As a result, the researchers developed their own 'codebook' and applied it not only on the text entities

within the e-portfolio, but also on “images, embedded documents, forms, videos, audio clips, and links” (Bokser et al., 2016, p.36). After a process of refinement, four codes were identified: "[a]wareness of transfer of learning over time", "awareness of processes and strategies for learning", "awareness of strengths and weaknesses in learning" and "awareness of affect and values while learning" (Bokser et al., 2016, pp:36,37). In a later stage a fifth code was added to deal with non-text entities.

Results of the analysis indicated that all codes were present in e-portfolios of all three groups of participants, to varied levels however, reflecting the learning assignments in each group. The overall frequency of a certain code, “awareness of processes and strategies” was the highest considering all e-portfolios (p.37). The researchers related the differences in the frequency of codes per group to the way the assignments were proposed:

> Upon comparing the assignments with the resulting e-portfolios, we noticed that the context and details of the assignment shaped the focus of authentic metacognition and reflection for various purposes, audiences, and learning goals. (p.41).

According to this, Bokser et al. (2016) suggested using their final list of codes, to which they gave the name ‘markers’, to guide the formation of the reflective assignments such that it is clear for the learners what is meant by metacognition and reflection. Further, they suggested using “the markers to guide assessment” (p.41). The emphasis on the design of the assignments and how to use the ‘markers’ to craft the design such that metacognition is enhanced is in coherence with the purpose of this thesis research. However, an all-inclusive view of the learning design is still missing in the Bokser et al. (2016) study.

### 2.2.4. Research Addressing Regulative Processes within the Perspective of CoI

The literature discussed indicates the lack of consensus on a metacognitive construct. Further, there is no agreement on the approaches to identify metacognition in textual learning outcomes. An interesting example of the lack of consensus on metacognition is the study by Hayes, Smith, and Shea (2015). The authors went forward with a previously posed suggestion – by Shea, Hayes, Smith, Vickers, Bidjerano, Pickett, Gozza-Cohen, Wilde, and Jian (2012)- about extending the CoI by adding a Learning Presence [LP] to the already established three presences. However, the proposed 'enhancement' of the CoI which focused on the regulative behaviors of the learners was strongly rejected by Garrison and Akyol (2013). They argued that the three interactive presences – teaching presence, cognitive presence, and social presence- are satisfactory to describe the active learning processes in online contexts. Garrison and Akyol decided to develop a metacognitive construct to account for both aspects of metacognition; individual metacognition and socially shared metacognition. In their later work, Garrison and Akyol (2015) devoted more attention to the regulative behaviors of learners and identified self-regulation and co-regulation as the two aspects of regulation of cognition. As was discussed earlier, they acknowledged the interdependence of the two aspects of the regulative processes. However, Hayes et al (2015) decided to proceed in developing a fourth presence to account for the behaviors of learners and their attitudes as they engage in the inquiry process. LP is argued to have three levels; self-regulation, co-regulation and shared-regulation. Hayes et al. argued that self-regulation is about a learner's behavior to regulate her/his own learning without any intended behavior towards impacting the learning of others. On the other hand, co-regulation refers to the asymmetrical regulative behavior of a learner towards a peer who is struggling with some aspect of the learning process, and shared-regulation refers to the symmetrical regulation process aiming at achieving a common ground for accomplishing a learning task such as setting group goals, making decision about the strategies to be applied, or track group progress. Each LP dimension was argued to exhibit three stages: "forethought and planning", "monitoring and strategy use", and "reflection" (Hayes et al., 2015, p.18). To verify the LP construct, Hayes et al. (2015) analyzed the discussion posts of nine nursing students taking an

online course in a US college. The total number of students taking the course was 18, and they were distributed into 4 teams to accomplish a project that extended for 6 weeks. All 18 students were contacted by the researchers, and the 9 who provided consents were considered in the research. Learners were supported by an asynchronous discussion space, an optional real time space for chatting, and identical sets of instructions. The authors collected a sum of 435 messages. The analysis of data went through quantitative and qualitative steps; the frequency of LP occurrence was counted "based on a pre-established" code scheme (p.18). Afterwards a qualitative approach was considered to identify the LP levels and stages according to the authors' developed construct. The findings supported the LP presence since all 3 levels and 3 stages were identified and examples of each were demonstrated from the discussion postings of the participants. In contrast to the findings of Garrison and Akyol (2015), Hayes et al. (2015) did not indicate any interdependence between the three regulative levels.

On the other hand, Garrison and Akyol (2015) improved their previously developed metacognitive construct by developing two new constructs to operationalize the shared metacognition process. The two constructs are self-regulation of cognition and co-regulation of cognition. As was explained earlier, the metacognitive construct was developed to have three dimensions, knowledge of cognition, monitoring of cognition, and regulation of cognition. Garrison and Akyol (2015) argued that self and co-regulation of cognition are interdependent and each of them exhibits “a monitoring (awareness) and a managing (strategic action) function” (p.68). As the researchers analyzed the responses of 192 participants to the shared metacognition questionnaire, they confirmed their newly developed self and co-regulation constructs.

Such discrepancies between research findings are common in this field of research. Despite the growing interest in theoretical frameworks that can provide guidance for designers of online learning, there still seems to be a lack of agreement on the development of such frameworks and a gap in how to use them to inform online learning designs. Nonetheless, there

are some robust attempts to extract guidance on how to put theory into practice. The next section is about such attempts.

### 2.2.5. Learning Design Approach to Support Metacognition

The 'Conversational Framework' by Laurillard (2009) seems to provide a possible answer for the question about which learning designs support deeper learning outcomes. Although Laurillard did not foreground metacognition as the main theme for her framework, it is useful because it addresses all kinds of learning with an emphasis on deep learning. Laurillard's attitude towards using learning designs in ways that challenge technology is interesting because she does not argue for the use of technology in ways that are as efficient as conventional learning settings but she argues for using technology to support designs that conventional learning settings are incapable of supporting;

> A strong statement would also enable the learning designer to defend the use of digital technology as a unique form of educational technology, able to meet the challenging requirements of the nature of formal learning in ways that conventional methods cannot. (Laurillard, 2009, p.6).

The 'Conversational Framework' by Laurillard was based on a combination of four theoretical frameworks that describe learning; 'Instructionism', 'Constructionism', 'Socio-Cultural learning' and 'Collaborative learning' or 'Social Constructivism'.

In the Instructionism Framework learning is explained in terms of a learning task designed by the teacher to achieve an educational goal, and the feedback from the teacher comes in the right/wrong format so that learners would readapt until the goal is achieved. Constructionism prioritizes the experiential aspect of learning by setting more emphasis on the "construction of a model or object as an aspect of learning" (Laurillard, 2009, p.7). The 'socio-cultural learning' framework puts much emphasis on discussion as an active aspect of learning.

Collaborative learning or 'Social Constructivism' is the product of the combination of 'constructionism' and 'socio-cultural' learning.

What is unique about the virtual contexts is that they easily facilitate the exchanges of roles among teachers, learners and peer learners. Starting from the point that technology-supported learning should be challenged to enable innovative learning designs, Laurillard (2009) argued that despite the complexity of the exchanges of roles it is possible to "classify them as operating on two contrasting levels: the discursive… and the experiential" (p.8). In the former, discussions of theories, ideas, concepts, and presentations occur, and in the latter, exchanges of roles occur when learners experiment and practice the learning tasks. Regardless of the learning discipline, Laurillard (2009) makes it clear that the role of "repeated iterative interaction on both levels" for learners and tutors is crucial for learning to occur, and that both levels of exchange are connected (p.8). Laurillard (2009) further suggests that within the interaction between the discursive and experiential levels, learners would adapt actions "in the light of understanding" and reflect on practice "to inform theory or concept development" (p.8). Hence, according to the Conversational Framework learners should be encouraged to engage in discussions and articulate their views to peers and teacher and receive feedback from them (Laurillard 2012).

What is interesting in the Conversational Framework, considering the social aspect of learning, is the emphasis on the learner-teacher and learner-other learners/peers interaction, and the opportunity the Conversational Framework guarantees for adaptation and redoing/revising the learning task to provide evidence that learning took place.

Laurillard (2009) offered a checklist based on the Conversational Framework to test the quality of "the learning activities planned for a learning session" (p.19). Two items in the checklist are of particular importance when considering the collaborative learning settings in

this study; "repeat practice, by providing feedback on actions that enables them to improve performance" and "reflect on the experience of the goal-action-feedback cycle, by offering repeated practice at achieving the task goal" (p.19). The first gives learners the opportunity to improve their performance by having more time to think of the feedback they receive from peers and teacher and repeat the practice. The value of this is that it allows for others to have impact on the learning of the learner. The second item ensures that the learner reconsiders her/his action and has the opportunity to evaluate the learning that occurred, which is crucial for controlling own cognition. Both items are valuable for metacognition as was explained in the literature addressing metacognition and how to support the development of its skills.

The emphasis here on using pedagogical theory to design the online learning experience is part of the growing field of learning design research. Sharpe and Oliver (2007) argued for "codifying professional knowledge and practice" so that online education professionals are capable of constructing effective professional learning communities through which they can create and share learning designs using highly contextualized representation systems (p.120). Despite the insights of Laurillard, and the calls for cooperation in the field of online learning designs by researchers like Sharpe and Oliver, later researchers described learning design research as being at a 'watershed' (Conole & Wills, 2013). Conole and Wills identified the need to produce a "set of resources for practitioners and learners to help them adopt more learning design-based thinking and practices" (p.37). To conclude this section, researchers highlighted the necessity of developing new learning design frameworks that respond to the needs of online education, as well as adopting mechanisms for sharing learning designs with other researchers and practitioners to bridge the gap in the field of online learning designs (Conole &Wills, 2013; Sharpe & Oliver, 2007). This thesis aims to support this line of research by examining the effectiveness of online learning designs for deeper learning.

## 2.3. Insights from the Reviewed Literature

Although some of the studies discussed here suggested further research regarding the social aspect of metacognition (Garrison & Akyol, 2013; 2015) exploring the relationships between social presence and metacognition has not received much research attention. Further, there seems to be lack of agreement on how to define social presence, metacognition or how to measure them. The theoretical approach to describing the social aspect of the regulative behaviors of online learners is still an issue much debated. The Hayes et al. (2015) study is just an example of the lack of consensus on the theoretical models of metacognition. Hayes et al (2015) based their work on their previous argument on the need to develop the construct of Learning Presence, see Shea et al. (2012). However, Garrison and Akyol (2013) argued that to extend the CoI by including a Learning Presence [LP] "is without commensurate theoretical considerations of the CoI framework" (p.85). Hence Garrison and Akyol (2013, 2015) restated that the intersection between the three presences, teaching cognitive and social, would account for the regulative behaviors of all members within the CoI, and moved forward with their metacognitive construct as discussed earlier. The lack of consensus on the theoretical frameworks describing metacognitive skills and behaviors in online learning contexts might lead to the consideration of fresh perspectives when dealing with online data using the lens of metacognition. The unique approach of the Bokser et al. (2016) study discussed earlier might be thought of as one of the studies considering a fresh perspective to online learning.

Another interesting point about the literature reviewed here is that many researchers concluded that their findings should inform learning design in online contexts, nonetheless their conclusions and recommendations remain too limited when dealing with the holistic process of learning design. The work of Laurillard (2009; 2012) discussed earlier provides some answers for learning designers of online contexts, however, more emphasis on the specific needs of online learners should be considered.

Jaber and Kennedy (2017) suggested using the work of Goffman (1959; 1972) in analyzing the social presence aspect of online learners' behaviors, drawing on the concept of identity performance. Jaber and Kennedy agreed with Laurillard (2012)'s view that online learning designs should support learners' engagement in discussions and articulation of views in order to be exposed to varied perspectives and produce deep learning. Jaber and Kennedy (2017) further argued that learners need a safe environment to support such rich social presence in which they can perform their 'learning identities'. Online learners need to feel secure, or not threatened by practices "undermining their identity" as they discuss their "half-formed or incorrect ideas" with their peers (Jaber & Kennedy, 2017, p.218). Within the Goffman perspective, such feelings of security emerge from the learner's capability of predicting the responses of other members within the community. Certainly, Goffman did not set out to explain online contexts specifically, however, much of it is still applicable to describe human behaviors when encountering other identities regardless of the context. According to Goffman's concept of co-presence, people tend to scrutinize other identities by looking for their less guarded moments to check the authenticity of their performance. Such unguarded moments are the cues that people 'give off' unintentionally maybe through their body language (Goffmann, 1955, 1959). Spontaneous responses and real time conversations are trusted by others as representing real identities more than carefully developed responses. In their conclusion, Jaber and Kennedy (2017) argued that to have effective social presence in which learners feel secure enough to express their views, it is crucial to provide the online learning community with the means to perform their identities in real time or to have more " immediacy in online communication" in order to "provide less guarded communication that builds trust by leaking unintended information" (p.227).

This thesis has approached the issue of social presence in online learning contexts using the lens of deeper learning. The possibility of developing metacognition, as a deeper learning outcome, was explored both as an individual learning phenomenon and as a socially shared phenomenon. More precisely, this thesis research is an attempt to answer the following three main questions and the sub-questions emerging from them;

1. How is social presence related to individual and shared metacognition in online learning contexts?
    - How effective was the social presence of members of the learning community as perceived by students and tutors?
    - What indications, if any, are there of metacognition (individual and/or socially shared) as learning outcomes in the learning community of this study?
    - What indications, if any, are there of a role of social presence in achieving metacognitive outcomes (individual and socially shared)?
2. What theoretical insights can be gained about social presence and its role in supporting metacognition in online learning contexts?
3. What practical guidelines should be considered when designing online learning environments?
    - How can the learning design be improved to harness effective social presence?
    - How can the learning design be improved to harness deeper learning outcomes, more precisely;
        - Individual metacognition?
        - Socially shared metacognition?

# CHAPTER 3: METHODOLOGY

This chapter is about the methodological approaches adopted to address the research questions. It also discusses the rationale behind the choices made about the methods and tools of the research. The research methods adopted in this study aim to provide insights by investigating deeper learning outcomes, or metacognitive aspects of learning, that are produced within the social context of the online learning environment. Further, it was hoped that investigating the online learning experience from perspectives of both students and tutors would be more appropriate to thoroughly probe such sophisticated aspects of the learning process as social presence and metacognition. The epistemological underpinnings, the theoretical biases, contextual factors and ethical considerations at play in the design and processes of this thesis research are also declared in this chapter.

## 3.1. Research Design and Epistemological Considerations

To address the questions of this research study a qualitative case study approach was adopted. The research study was an embedded single case (Yin, 2009; Gray, 2014) since the learning community of a single online postgraduate programme in education was addressed. However, two separate data analysis processes were accomplished, one for student participants and the other for tutor participants. An embedded single case design can be criticized for being limited, not representative, hence not generalizable. Nonetheless, recalling that online learning is a relatively new phenomenon which is anticipated to thrive in the years to come, each successful online learning programme represents a “unique” case that fits one of the rationales “for a single case” as discussed by Yin (2009, p.47). It is hoped that by documenting the way participants reflected on their experience with the online programme, the phenomenon of online learning at graduate level can be better understood and theorized. The online programme under consideration here might be considered as a case to be replicated by other universities looking to expand their academic services by investing in online learning.

In such circumstances, a single case research is worthwhile. Further, the global community of the online learning programme makes it more generalizable since its findings are not restricted to certain cultures or national limits. Again, with reference to Yin (2009), the findings and results of a single case study can "represent a strong start towards theoretical replications" (p.61).

As an explorative study that addresses a global learning community, qualitative approaches were more suited to exploring the sophisticated aspects of the learning process, namely social presence, individual metacognition and socially shared metacognition. The assumption underlying this choice was that researching such deeper aspects of the learning process needs deep flexible approaches. The choices of the research method and the data collection tool were all influenced by a constructivist paradigm. According to constructivism, creation of knowledge is a subjective process in which the 'relative' reality is co-constructed (Guba & Lincoln, 2008). Although this research study aims at exploring the relationships between social presence and individual and socially shared metacognition, this should not imply that the research aims at establishing causal relations between those concepts, as a naturalistic paradigm might dictate (Moses & Knutsen, 2007). Rather, the intention here is to explore how they are related from a constructivist approach. For instance, it is of value for this research to see how student and tutor participants form connections between different aspects of the learning experience including the main concepts of this research study. Further, the concepts of social presence and metacognition are studied within a contextual perspective that would value factors at play in the educational process, such as the design of learning tasks, the engagement of peers, the feedback from tutors, and so on.

In the early design of this thesis study it was hoped that adopting a constructivist paradigm would provide the flexibility required for an explorative stance that is open for new unanticipated findings. Ritchie (2003) argued that qualitative approaches and constructivist paradigms are appropriate "to examine subjects in depth" as they can study "what lies behind…

a decision, attitude, behavior or other phenomena" (p.28). Qualitative research appreciates the complexity of life and realizes that it cannot be described in a certain set of isolated well defined steps. Semi-structured interviews were used as the data collection tools to probe the online learning community because such a flexible tool gives more control to the participants so that they can talk more openly about their learning experiences. Further, two forms of interviews were conducted; individual interviews and group interviews with student participants and only individual interviews with tutor participants. With student participants, the first round of interviews were group interviews so that they would help each other remember their learning experiences and reflect on them with less impact from the interviewer. It is thought that participants would be stimulated to open up and articulate their opinions when they hear the views of others. However, there is always the possibility that interviewees might keep their views for themselves if they don't match with the views of others. To deal with this drawback, individual interviews were used in the second round of interviews with student participants. Group interviews were more about reflecting on the online learning experience in general, then the social aspect of it and the learning outcomes, and how to improve it. Individual interviews, however, were more focused towards the two main themes of this thesis research. On the other hand, individual interviews were satisfactory with tutor participants because their experience with the online learning forums is a continuous one, and there is no need for reminding them.

## 3.2. Participants

Previous research has focused on students' perspective to explore learning outcomes while ignoring tutors' perspective (Drysdale et al., 2013). It is not a simple matter for students to report the occurrence of metacognition. Tutors, however, can provide deeper insight on the occurrence of metacognition especially when socially shared metacognition is to be explored because of the tutors' access to the collective work of learners. Participants of this study are ten students at the doctorate level attending an asynchronous online programme in a European

university, and four tutors at the same programme. Participant students are three males and seven females, while participant tutors are three females and one male. Both sets of participants are globally dispersed. Four participants were located in North America, three in Africa, two in the Middle East, two in East Asia and three in Europe.

To probe a deep aspect of the educational process such as metacognition and social presence, it is useful if the participants are capable of articulately describing their experience. Hence, the choice of a graduate programme at the doctoral level in the field of education. It was thought that a number of participants equivalent to the number of students in each class would offer an adequate variety of views for the study. In the addressed programme, each class would typically be composed of 10 to 15 students, and that informed the number of student participants. After fulfilling the ethical process of the University of Liverpool and contacting the HEI providing the online doctoral programme for permission to carry out the study, all students at the thesis stage or preparing for it were invited. Invitation letters were sent via the email system of the thesis community which was developed by the doctorate programme designers to facilitate communications among the tutors and students who are preparing for the thesis stage or already at it. This gave a pool of about 50 students. 15 students sent back consents and they were emailed again individually to send their Skype addresses and the three to four timings in which they would be available for a group interview. Of the 15 who sent back consents 12 provided the necessary data, and of those only ten made it to the interviews.

As for tutor participants, it was thought that five tutors would provide sufficiently varied perspectives to meet the aim of this research study. Tutors were invited individually, with preference given to those with longer experience, two years or more, in the online programme in question. The invitation of tutors continued until the desired number of tutors, five tutors, was reached. However, only four tutors made it to the interview.

The process of inviting participants and collecting consents was accomplished about a week before the start of the rounds of the semi-structured interviews. Three rounds of data collection were undertaken. The first was semi-structured group interviews with student participants. The second was individual semi-structured interviews with student participants, and the third was individual semi-structured interviews with tutor participants. There was some time overlap in the interview rounds between tutor participants and student participants.

## 3.3. Ethics Procedures

Since this research study is part of the requirements of a doctoral degree in the University of Liverpool [UoL], the ethical approval process of UoL was fulfilled. Invitation emails were sent by the researcher about one month before the start of interviews. Informed Consent forms and Participant Information Sheets [PIS] were sent to participants such that all consents are received at least one week before the start of the semi-structured interviews. Participation was voluntary, and this was made clear in the PIS which provided provisional participants with all necessary data to help them make their decisions. Replying by email stating agreement to participating was considered satisfactory for gaining informed consents. Copies of the ethics forms are included in the appendix.

All participants were asked to provide their Skype names in preparation to be interviewed via Skype. After the data collection, and transcribing processes, pseudonyms were given for participants. Later on, participants were referred to using pseudonyms to protect their identity.

It is of value here to declare my biases as a researcher. Being an online student myself, my judgements and interpretations of the data might be influenced by my own experience. On the other hand, I consider this an enrichment to the data analysis since it would help me, as the

interviewer and the analyst, to be more sensitive to the needs of the participants during the semi-structured interviews, and more aware of the latent meanings of their responses. Nonetheless, the researcher had no relation of authority with any of the participants.

## 3.4. Implementation of Methods

Planning for the semi-structured interviews was a complicated process, mainly the group interviews. Participant students were residing in varied time zones, and grouping them to do synchronous interviews was a challenge. To deal with this, student participants were asked to provide their Skype names and three or four timings that suite their schedules. Then a table of the varied possible timings of all student participants was developed. Afterwards further emailing was done to ask for a few amendments with two or three of the participants, and the schedule for the group interviews was ready. Of course this resulted in doing some interviews in odd hours for the researcher; 3:00 am for example, with participants at the far-flung ends of the world. Four semi-structured group interviews were planned, each of three participant students. However, with two of the group interviews one of the participants didn't make it. That resulted in having two group interviews with two participants each, and two group interviews with three participants each. The group interviews with two participants each were of two females, a male and a female, while the ones with three participants each were of two males and a female, and three females. As can be seen, the concern of the researcher was to be considerate to the time zone rather than to the distribution of males and females. With the individual interviews the process was less complicated.

Mainly the questions of the group interviews addressed student participants' feelings towards their experiences in the programme and their views about how to improve the programme. Key questions of the group interviews were:

- How do you describe your learning experience in 'the programme', in terms of your interaction with other learners and with your tutors?
- In terms of social interaction and the ability to control your learning: what changes would you make to the programme in order to improve this?

Each student participant was given an opportunity to respond to each question as a member of the group. Follow up questions, such as; 'what do you think of this suggestion?', were asked to keep participants engaged in the interview.

The group interviews aimed at helping student participants remember their learning and social experiences in the programme and reflect on them through a social context. Student participants' responses about the suggestions for improvement implied some reconsidering of questions in the second round of semi-structured interviews; i.e. the individual interviews.

The protocol for the individual semi-structured interviews was informed by a questionnaire developed by Garrison and Akyol (2013) to measure metacognition and the CoI questionnaire, mainly the part about social presence (see Akyol, Vaughan and Garrison (2011), pp:244-246). Questions addressed students' metacognition and their perspective of how their social presence has contributed to their individual and shared metacognition. Nonetheless, the approach used was less direct and more flexible when compared to the approach used in Garrison and Akyol (2013). Their questionnaire was composed of three parts; Knowledge of Cognition, (KC), Monitoring of Cognition (MC) and Regulation of Cognition (RC) (Garrison & Akyol, 2013). The KC part, for instance, has "I know my strengths as a learner… my weaknesses as a learner", "I have good critical thinking skills… good problem solving skills", and "I know what factors may enhance my thinking and learning… my motivational state…opportunities of success… existing knowledge…" (p.86). In the MC part, a certain item was given much attention in the interview, "I pay attention to other course participants' ideas/understandings/

comments" (p.86). However, it was thought that participants might be tempted to give positive responses if the items of the questionnaire were used directly. Rather, in the individual semi-structured interview, participant students were invited to evaluate their learning experience, by discussing both positive and negative aspects of it: 'How did your interaction with other learners and tutors in the programme impact your learning? Can you provide incidences where your approach to learning was enhanced due to social interaction with others? Or incidences where your approach to learning was negatively impacted due to social interaction with others?'

Another question was to help them be critical about the design of the programme and reflective on their learning through discussing certain suggestions for improving the programme. Some of the suggestions were informed by the 'Conversational Framework' and the checklist by Laurillard (2009). A good example of a suggestion that was informed by the Conversational Framework is about changing the design of the whole group activity such that the main post is to be submitted at the end of the week when the whole group interaction took place. In the suggested design students would submit a post at the beginning of the week including their primary thoughts of the theme of the week, then engage in discussions with their peers and the tutor, and submit the main post at the end of the week. This suggestion was informed by certain items of the checklist, mainly: item 6. "repeat practice, by enabling them to share their trial actions with peers, for comparison and comment", 7. "reflect on the experience … by offering repeated practice…", 8. "discuss and debate their ideas with other learners", and 9. "reflect on their experience, by having to articulate or produce their ideas, reports… to their peers" (Laurillard, 2009, p.19).

Follow up questions were asked to help student participants express their feelings, and to focus on the factors that might enhance their learning. As can be seen, the questions of the interview were indirectly addressing both themes of social presence and metacognition, sometimes through discussing the contribution of other learners to the participant's learning, if

any, and sometimes through addressing the metacognitive skills and the factors that can enhance them.

To focus the attention of participants to the main themes of the research study, and to make sure they had some basic conception of them, a short introduction briefly describing the themes of the thesis was delivered by the interviewer at the beginning of the individual interviews with participants. For example, metacognition was simply explained as follows: metacognition occurs when the learner becomes aware of how her/his learning or the learning of others occur and controls it.

The questions of the semi-structured interview for the tutor participants discussed mainly the same issues as with student participants, from the tutors' perspective however. The perspective of tutors was sought in this research study because it is believed that their skills in observing and assessing the learning process, and their holistic view of the interactions among students and the learning outcomes as evident in the written work of students can be a unique approach to describing the educational process.

Each semi-structured interview lasted for about one hour, with some variance that reflected the participants' openness about their experiences. Due to the flexibility of questions, the variety of perspectives, and the depth of the themes of the research study, the semi-structured interviews produced a rich body of data that shed the light on various aspects of the online learning experience. All semi structured interviews were conducted within two months; June and July of 2015.

## 3.5. Data Analysis

The qualitative data collected through the semi-structured interviews was subject to a thematic analysis that followed the 6 steps as described by Braun and Clarke (2006). Thematic analysis was chosen because “it can be used within different theoretical frameworks” (Braun & Clarke, 2006, p.81). Further, its flexibility suits the explorative nature of this thesis research. The two rich sets of data (student interviews and tutor interviews) required a lengthy, time consuming process to be transcribed. To familiarize with data, the transcriptions were read at least 3 times before any coding and out of the codes themes started to emerge.

The unit of analysis for semi-structured interview was considered per participant. Themes were identified as patterns recurring across the data set. Of course, themes should also be related to the questions of the study. The thematic analysis applied in this study was an inductive analysis in which no fitting of the data to a pre-existing coding frame took place (Braun & Clarke, 2006). This should not imply a lack of coding frames in the literature about the main variables of this study, rather it implies a flexible approach that was encouraged due to the lack of agreement on definitions, indicators, and measures of those variables (i.e. social presence and metacognition) as was discussed in the literature review chapter. In inductive thematic analysis the analysis is data-driven, however this does not mean that the analytic processes are totally free of theoretical biases. After all, any study is anticipated to be conducted within a theoretical framework, and identification of themes is influenced by researchers' "values, theoretical orientations, and personal experiences” (Ryan & Bernard, 2003, p.88). For this research study, the theoretical framework of the ‘Community of Inquiry’ [CoI] was referred to as one of the main components of the theoretical frameworks impacting the analysis. As more rounds of refinements of the analysis process were conducted, a new meta-theme emerged, identity performance, and this one was more impacted by the theoretical framework developed by Goffman (1956; 1972). As an alternative, a theoretical thematic analysis could have been applied in this thesis research using a pre-existing coding

frame. However, such an approach would have limited the flexibility of the research and negatively impacted on its explorative nature by confining it to a certain theoretical paradigm. My choice of this approach was supported by the insights and findings of some previous researchers (Bokser et al., 2016; Lowenthal, 2012).

The six steps applied are just as discussed in Braun and Clarke (2006); “familiarizing” with data (through reading and taking notes, “generating” codes which required more reading in a back-forth manner, “searching for themes” out of the initial codes of the previous step, “reviewing themes” which was a step of making sure that the codes really fitted into the themes and that the themes could tell the story of the entire data set and this step overlapped with the next step of “defining and naming themes”, and finally of course “producing the report” (p.87). In general, it is hard to say when a step completely halted and the next step began. Overlapping between steps was experienced through the process, however to varied levels.

To clarify the thematic analysis process, a worked example is shown here;

The following quote is from a response of Lilly, a student participant, to a question about social presence and its impact on her learning:

> interaction… interaction for me is two things; one interaction I read, and another interaction is according to the requirements I response to them … either giving feedback or comment or you know, some discussion, asking some insightful question… so that is one part in the interaction, but the other thing, just reading and reflection, compare the writing in myself… that also another interaction… that part may not be known by any one… maybe only me. Because it's a kind of interaction because everyone posted, I have to choose three, but I read more than three and I think …of the concept more than three… but for the three I choose, I write and the discussion continue, but even then for those who I do not write, for those posts who I haven't write for discussion but I still reading and thinking, and I even download it and I even keep their references, and I follow the references and I read it, so by this way later I realize, ok which post is easier for me to 'response' … which is more of my interest, so within the timeframe also I must… sometime I am interested in… that is the new area, it's very new to me, and sometimes it's very

> difficult for me… more time to read, so I just download their post and keep it and the reference also I keep it, and then later… after I submit my necessary discussion I continue to read… I thought that is also a kind of interaction; reading and reflection.

This piece of data was coded as follows; the paragraph shaded in green was coded as 'lack of participation', and the paragraph shaded in yellow was coded as 'participation'. However, the parts which are underlined were coded as 'limited time'. Both codes of participation and lack of participation were joined in the theme 'Participation or Lack of', while the code 'limited time' was merged with other codes such as 'lack of interest', 'different background from others', 'lack of openness', 'lack of face to face' under the theme 'Obstacles about Social Presence'. The quotes considered for the codes and the themes were long ones as can be seen in this example. This was a decision made early in the analysis process driven by the researcher's appreciation of the contextual aspect of the data. During writing the analysis report, the last step of the thematic analysis according to Braun and Clarke (2006), shorter quotes were included within paragraphs describing the contexts.

Yin (2009) warns researchers who use embedded single case designs of paying too much attention to the subunits of analysis and ignoring the main unit of the study which is the online doctoral programme in this case. To avoid such a main pitfall, the analysis of student data and tutor data was followed by an attempt to find divergences and convergences between both sets of data which resulted in the emergence of further meta-themes.

## 3.6. Chapter Summary

This chapter presented the methodology for this thesis research and discussed the epistemological underpinnings that informed the design of the study and the choices of its methods and tools. Further, it described the procedures and executive steps of the research paying attention to the theoretical biases that drove the researcher all through the processes of the research. In addition, the impact of the context of the study was clarified since its impact is highly appreciated in constructivist qualitative paradigms, especially when dealing with case studies as in this thesis project.

# CHAPTER 4: RESULTS AND ANALYSIS OF STUDENT PARTICIPANTS' INTERVIEWS

This chapter is one of two chapters focusing on the findings of this research process. As was explained in the methodology chapter, semi-structured individual and group interviews were the data collecting tools. Two types of participants were included; student participants and tutor participants. In this chapter, the findings from student participants' interviews are discussed, while the findings related to tutor participants are described in the next chapter. This is because two thematic analysis processes were completed on each set of data.

It is often argued that the identification of themes is a process coloured by the experiences of the analyzer and the research purposes and questions (Braun & Clarke, 2006). However, the explorative nature of this research project made the voices of the participants loudly heard in the identification of themes, interpretation of data and analysis processes in general. Hence, direct phrases are often reported "to keep the flavor of the original data" (Cohen, Manion & Morrison, 2011, p.539).

The thematic analysis process resulted in the emergence of 8 main themes. The identification of the 8 main themes was not a straightforward process. Rather, theme identification went through many refinements, moving back and forth between coding, theme identification and theme naming (Braun & Clarke, 2006). The main themes were: Awareness of Own Learning, Social Learning, Conflict or Different Perspectives, Transformation, Participation/or lack of, Feelings about Learning, Locus of Control, Obstacles against Social Interaction. In the following, the findings are discussed as interpretation of data clustered under these themes.

## 4.1. Awareness of own learning

In general, participants showed awareness of their learning. As they were asked to talk of their learning experiences and their approaches to learning their replies strongly indicated that they are aware of their approaches to learning, which is normally the case for mature learners at such an advanced level in the field of education. To provide some examples, Franc explained that he tends to be too detailed in presenting his ideas when he is not confident about his learning and his argument led him to conclude that neat presentations and confidence in learning are related:

> I think that when you're learning something new, because you have less confidence in what you're presenting, that you want to include everything, aaah.., and… that may not be the best way to do it. (Franc)

Franc went on discussing some instances in which he "left the confidence" in his learning, such as doing a literature review which was "kind of a data dump… I just kept throwing everything on paper", and another incidence when he made a concept map of the learning theories which he had no previous knowledge of:

> … and so all of the theories are new to me, and the concepts are new to me… uh… so I sometimes find that… yeah, I try to include too much so that I don't miss anything… ha ha … (Franc)

Such an analysis of one's own approach to learning fits with the definition of the second dimension of metacognition, 'Monitoring of Cognition', in which the learner reflects on action and goes a bit beyond that to 'Regulation of Cognition' in which the learner reflects in action (Akyol & Garrison, 2011, p.184). Another participant, Lilly, described her approach to learning as having an 'agreeing' nature. She said:

> when I read something I absorb rather than making critique on it… maybe I bring some experience which is similar to this experience… which can support this experience rather than the different views. (Lilly)

By stating this, Lilly pinned down the fact that she struggles with critical thinking or maybe this revealed one aspect of her learning approach, that she looks for coherence. To confirm this idea, Lilly kept talking about how she looked for similarities with the thoughts and ideas of others during her interaction with them.

One of the participants, Bella, provided a clear analysis of her learning as she said:

> I think I am useful because I can tie lots of different thoughts together. So there are… normally the people I work with are very brilliant in a straight line, and I am rubbish in a straight line… I am awful… so I need to see all the different points and bring them to one… so it's really useful if somebody who thinks linearly works with me then we can normally find a way to get things done. (Bella)

Not only do her words reflect awareness of her learning approach but also how other learners might be useful for her learning, and how she can be useful for other learners. It is interesting how some participants made those connections between their learning and the role of others in their learning, or the role of social interaction in their learning. Such connections resulted in some overlapping between the first theme; awareness of own learning, and the second theme; social learning.

Awareness of the role of others in one's own learning is another level of awareness of learning. Some people are capable of developing friendships and benefiting from them in their learning even if they are in online learning contexts. However, there are also those who encounter difficulties in interacting socially in online learning contexts. Participants who fall in the second category talked with much regret about their need to have their thoughts validated through the discussion with others. Further, they expressed their dissatisfaction when their posts in the discussion forums do not receive the attention of their peers.

Lisa seems to represent the case of the former learners for she actively looked for 'study pals' and when her study pal decided to quit the programme she looked for another 'study pal' (Lisa). Jane also seems to fall into this category. On the other hand, some of the others seem to need support in that aspect; one particular student participant, Nora, did not seem to realize the value of social interaction as a means for learning for she considered it just social support in one occasion and in another she doubted that there would be a difference with the alternative learning design – that is, if a student submitted the assignment before having a discussion with colleagues or after it – it was "just a discussion" for her:

> …whether you submit your assignment at the beginning or at the end, what is in between is just a discussion of thoughts and a discussion on what others are thinking or what they're saying. (Nora)

It might be that Nora's words reflect lack of awareness of the factors at play for her own learning. Nonetheless, it might be that she is doubtful about the social aspect of learning.

Nora seems to be a unique case, for none of the other student participants actually doubted the value or contributions of others to their learning. Even student participants who struggled with benefitting from social online learning talked about this as a loss. Adam for instance, expressed regret that he lost the interaction with his first cohort due to taking a break during his learning journey in the programme; for he positively described the interaction he had with his first cohort and sadly described his loss as he moved to a later cohort. Adam went a bit further as he made a connection between retention of learning and the social interaction; he made a comparison between a Module where he did not enjoy much social interaction and could not remember the content of the module or its assignments and another Module that he retained much learning from it:

> …whereas the… course that I said there was something positive about, I remember exactly; it was the learning theories course. It was about learning theories, and everybody was deeply engaged, and we were talking and we met offline, and we met like… individually. Even… even after it, the Skype would be on constantly for me… we talk. Even, we made friends with, you know, colleagues. (Adam)

It might be that Nora and Adam represent two extreme cases of awareness of the social aspect of their own learning. While Nora was not aware of the interaction with peers as a source of learning for her, Adam was aware of this source of learning, considered it valuable and regretted that he did not enjoy it as much as he wanted. This aspect of awareness of own learning overlaps with the next theme, social learning. However, under this theme awareness of the social learning as a source of learning for the participant is discussed. Social learning from a holistic view is discussed next.

## 4.2. Social Learning

The second theme was social learning, and considered under this theme were ways of acknowledging social learning, participants' contribution to the learning of others, the role of others in the learning of the participant.

Student participants showed varied levels of awareness and acknowledgment of the role of social interaction in their learning and the learning of others. Only a few of them could provide certain instances showing how their learning was impacted by the 'social presence' (Garrison & Akyol, 2013) of the members of the learning community. Of course the development of metacognitive skills, such as awareness of learning -the learning of oneself and others- and the capability to control own learning and the contribution to controlling the learning of others are advanced levels of learning. Using the terms of Bereiter and Scardamalia (2014), learners who acknowledge the opportunity to be exposed to varied ideas in order to

practice idea improvement are of “a design mindset” which is an “inherently social” mindset (p.39). This idea was reflected in the words of student participants. Jane talked about the positive impact of discussions with peers in a very clear and straightforward manner.

> whenever I go through the weekly discussion I can see this progression in everybody's comments… like they started off very general and commented on literature, but as the week went on we focus on very specific components in the literature that interested us, and so it was nice to see how everybody developed their thoughts throughout the week, and I agree that some of the posts at the end of the week were stronger than the posts at the beginning because of the discussion that we had… … I could write probably most of the time, 90% of the time … a much… a better response at the end of the week about the literature than then at the beginning. (Jane)

Jane also talked about the positive impact of the social interaction with others to her performance at work as she discussed how she changed her approaches as a teacher when she found that one of her colleagues was applying a learning-by-doing or project-based approach in her institution. Despite this positive attitude towards social interaction and discussions with peers, Jane concluded her reply to a question about her opinion of the alternative learning design expressing her concerns that students might be 'swayed' if they submit their main learning post after doing the week discussions:

> …but I wonder if people would kind of be swayed… because after we read everybody's responses… I mean… some people… they would respond differently… I think people would respond so differently after… after the week long interaction and I wonder how much would be their original thought… how much would be influenced by others' writings. (Jane)

Nora, on the other hand, was very skeptical about the value of discussions with colleagues as discussed earlier. Nora's attitude is at odds with Bandura (2006) who found it necessary for learners in virtual settings to be engaged in social contexts. Nonetheless, Nora was able to see that what the learner produces might be affected by being exposed to the perspectives of others:

> It might be more … I'm not sure … just speculating… you might be affected by other people's thoughts while you are drafting your… your last assignment … your last submission. The difference is that with the first submission you're bringing it from your personal input only… I'm not sure if that makes a big difference actually! (Nora)

Nora's attitude towards social learning might make it difficult for her to engage in deeper learning activities with others because her words do not reflect appreciation of the "idea diversity as a source of energy" for the learning "enterprise" (Bereiter & Scardamalia, 2014, p.39).

The other student participants were somewhere in between the attitudes of Jane and Nora towards the value of discussion with peers to their learning. It is safe to say that, excluding Nora, all student participants expressed a level of appreciation of the value of discussions to their learning and the learning of others, and in some cases to the approach to doing the learning activities. Bearing in mind that Nora is living in a city experiencing political instability and providing poor internet service, it might be that the discussion is a sort of luxury for her, while the important thing is to make sure that she submits the main posts and assignments on time.

Adam discussed the value he could add to the learning of others as he argued that his advanced knowledge of technology and its uses in education enabled him to help other students who were not able to use technology in education. In addition, Adam valued the feedback from others as a guide for his learning. Bella went even further; not only did she describe the learning approaches of herself and the others but also she argued that her accomplishments as a learner are enhanced when she works with people who have learning approaches different than hers, or what she described as people who think linearly:

> … so it's really useful if somebody who thinks linearly works with me then we can normally find a way to get things done. (Bella).

Particularly interesting in Bella's case is the deep and fruitful social discussions that she had with one of her learning peers. She confirmed that she had never met him face-to-face, and did not know him before her doctoral journey. However, they could develop a level of confidence to support one another in their learning in a very deep way;

> And he said, … you've got some strengths that are different from most people, so what you need to do is just write them down and do your thesis based on your strengths. So he worked with me a little bit on that, and he's very brilliant actually, and I learned a lot from him. (Bella)

It is fair to say here that Bella's online learning experience runs counter to one of the critiques of online learning discussed in Bejerano (2008) doubting the capability of online contexts to support "peer-to-peer learning" (p.412). In this particular instance Bella and her colleague did not just discuss a certain assignment or the content of a module. On the contrary, their discussion went far beyond that as they discussed her approach to learning and how to benefit from her capabilities and reach her ultimate potentials. Their discussion can be identified as an indicator of social metacognition (Garrison & Akyol, 2011; 2013).

Bella shared with many other participants the appreciation of the variety of approaches and perspectives provided by classmates. It is fair to say that all participants acknowledged the opportunity to get to interact with the varied perspectives of other learners. However, their awareness of the contribution of interaction with others to their learning varied widely.

Lisa is another example of acknowledgement of peer-to-peer interaction. Although Lisa expressed her acknowledgement of social learning in more than one instance both as the

contribution of others to her learning or as her contribution to the learning of others, she argued that transformative learning, or what she called 'sparks', were more likely to happen in one to one interaction:

> those real sparks happened only in the one to one um… atmosphere, it was there and present but you could say it wasn't vividly colored or as intense in the large cohort as it was… ummm on the one to one… (Lisa)

Lisa's words showed awareness of the great moments of learning and awareness of the atmospheres that nurture them from her point of view. With some other student participants, indicators of the social aspect of metacognition were sometimes implicit or less evidenced. Franc described one incident in which he found the approach of a classmate to concept maps "visually appealing" and although he does not like concept maps, he liked his classmate's "minimalistic approach" to concept maps which was very different from his own approach and made him reconsider his approach and decide that simple, easy to read, and straightforward concept maps reflect a higher level of "confidence" in learning.

Lilly was clear about the importance of other learners to her learning; she emphasized the role of discussions in her learning as she said: "But sometimes my understanding may be different… during the discussion…" and mentioned that this value is not confined to the "subject matter but also the technology and other things…". Further, Lilly clarified how her writing skills - English is not her native language - benefitted from interaction with others in the discussion spaces. Lisa provided an argument about the value of articulating our thoughts and waiting for others to validate them, and as she replied to a question about balancing whole group activities and teamwork activities she added a new perspective to the role of social interaction in learning; it is the transformative role:

> sometimes we hang on to ways of doing things because we've done that thing before and it feels comfortable and... occasionally it would take a team to say... NO we won't do it this way let's do it in another way. (Lisa).

Lisa's argument showed her awareness of the role of others to our learning or the value of social learning. Nonetheless, her argument also explained her view of how 'transformation' occurs, a theme to be discussed later.

## 4.3. Conflict or Different Perspectives

The previous quote, by Lisa, is evident of the overlapping between themes; it illuminates the theme of transformation, but it is also evident of the overlapping between the 'social learning' theme and the 'conflict or different perspectives' theme. In the latter theme there were some subthemes which were later merged into a main theme; 'awareness of different perspectives', 'awareness of the value of different perspectives' and 'impact of different perspectives'

Lisa's words reflected both awareness of different perspectives and awareness of the value of different perspectives; as for the first, she talked about one of the friendships that she developed through the programme and that her friend was bringing a new perspective:

> because she was in a different field than me… she was working on the hospitality field… she was bringing quite different perspectives… (Lisa)

In another context Lisa discussed the value of different perspectives or views:

> … I don't like conflict and I don't seek it out… but it is that rapping against different ideas that makes you to think your own. (Lisa)

Nora, Zack, Jane and Sandra pondered around the same idea as Lisa. Jane provided an incidence that showed how being exposed to different perspectives improved her learning. She tackled the impact of different perspectives as she stated:

> I remember for example with the concept maps in one module… when I looked at other team members' concept maps and I saw the way that they thought and it was different than my own, I then reflected some… on my concepts… I actually changed my concept map and improved it… um… just by reviewing theirs. (Jane)

It is interesting actually that the concept map activity was mentioned by two other participants, Zak and Franc, and for all three of them the different approaches to concept maps by other learners was much appreciated as something that motivated them to reflect and reconsider their own approaches. The activity was a whole group discussion in which all students were requested to individually develop concept maps of the learning theories and share them with class for discussion.

Both Lilly and Meg shared Jane's view of the positive impact of being exposed to different perspectives as they explained their views while answering a question suggesting submitting the main post at the end of the week after doing the discussion. Lilly, for instance, emphasized the role of different perspectives in motivating her to reflect:

> Maybe different people catch different things and they will go back and read something they feel… more appropriate…
>
> based on that different views… something I didn't think about… maybe I will sit for it and I'll compare with mine. (Lilly)

It is worth mentioning that while Bella developed friendships with learners of different perspectives and interests, Adam found the lack of common interests and the different perspectives a barrier against developing friendships. Such varied attitudes make us realize the complexity of human behavior.

## 4.4. Transformation

As for transformation, many of the participants described transformative experiences during their journey in the doctorate programme. Most participants talked about gradual change all through the learning process in the programme. Although Adam talked regretfully about having to reorient to meet the requirements of the modules which were not tackling his interests, he mentioned another change with enthusiasm; that was his attitude towards learning logs:

> …that was something that I was hesitated and debating … but at the end, I was very happy that was around, because that was my way of releasing or expressing how I felt about what was going on… (Adam).

Bella changed her attitude towards discussion forums; she didn't like them at the beginning but realized their value to learning in latter Modules. Franc was closer to having a real turning point when he was exposed to the approach of another colleague to concept maps in the activity that was discussed earlier –in the previous theme. Being exposed to a different approach to developing concept maps, Franc, who did not like concept maps, reconsidered his approach and realized that having too many details in a concept map reflects lack of confidence in learning and found the 'minimalistic' approach of his colleague “appealing”. Actually, Franc’s description of the concept map being ‘appealing’ indicates a change in attitude towards concept maps, not only a change in the approach.

Lilly's exposure to varied cultures and people from different countries in the programme made her reconsider her image of other countries; she realized that the bright image she had about certain countries does not apply to all individuals and areas within those countries:

> …in the national context they appear that way, but there may be some weak points as well … …because we have a chance to meet with someone from different area… not from the capital of that country. (Lilly)

Meg talked of the factors that can aid transformation rather than her own transformational experience; "… because one individual being placed in a group makes a difference to the entire group…"

Nora, Sandra, and Zak's words did not reflect much transformational experiences. On the other hand, both Jane and Lisa described the transformations that they experienced during their journey in the programme in detail. Jane described the transformation in her understanding of the learning logs: at the beginning she thought that learning logs should include summaries of the learning and towards the latter modules, through feedback from tutors she realized the reflective aspect of learning logs.

Further, Jane described the transformation she experienced in her chosen thesis topic, and how she realized through discussion with peers that the topic she firstly chose was not her real interest.

> I actually realized the topic that I've chosen wasn't something I really wanted to go through it… but it was really helpful to hear everybody's perspective on it… (Jane)

Not only did she refer to the feedback she received from her learning peers on her thesis topic, but also described how reading their thesis topics made her more reflective in choosing her thesis topic, and in her professional development:

> … I think talking to the others about what they were interested in and what they value let me be more reflective also about what was important to me and my development and my… improving my organization… you know. (Jane)

Interestingly, in Jane's case it seems that her social interaction with others led to her transformations, something that Lisa mentioned as she was discussing possible changes to learning design that might aid both aspects of metacognition. Lisa discussed the role of teams in the transformation process in the same context that she showed awareness of the role of social learning, as discussed earlier. She explained that sometimes one would persist on doing things in a certain way simply because one used to do that and "it feels comfortable" doing them that way. To reconsider our old ways and change or experience transformation, Lisa suggested "… occasionally it would take a team to say... NO we won't do it this way let's do it in another way".

Further, Lisa argued that for transformation to occur, three components need to be there: "…reflection and dialogue and life experience". However, Lisa regretted the poor support provided by the programme for transformation:

> but we didn't really get a chance to do that, we got the internal dialogue, we got the reflection, but we didn't get really the chance to have… to… to test the validity of our ideas through group dialogue… and to facilitate transformative learning the educators are actually supposed to create… ummm create this opportunity for group dialogue. (Lisa)

Nonetheless, Lisa described how she would post her main post at the beginning of the week, and with the progression of the week she would realize that she misunderstood some concepts. Further she clarified the transformation in her thesis topic:

> … I started off like… I would never have imagined that I would be doing my thesis on […]. If you'd ask me that two or three years ago… I would be… What!! Are you crazy?! (Lisa).

A remarkable note about the transformation theme is that student participants' transformative experiences are often within the context of interaction with others. Interaction with peers and tutors is facilitated in the programme through some learning spaces such as the discussion board and the learning teams. Participation to the learning spaces is discussed in the next theme: 'participation/ or lack of'

## 4.5. Participation/or lack of

In general, participants joyfully referred to the instances when they enjoyed rich participation from their cohorts and expressed regret, and sometimes anger or dissatisfaction, as they talked about the modules where they did not have much participation from other learners. Adam, who complained about having to change his cohort, discussed lack of participation from two aspects; first his lack of participation or engagement which he attributed to missing interaction "with people who had the same interests, and the same goals and mind…". Second, he sadly declared that his posts rarely received attention from other learners as he did not usually receive responses from others to his posts.

Bella's responses to the interview questions reflected her deep engagement with other learners. She did not complain about lack of participation, on the contrary she talked positively about the responses she received from other learners and how she developed friendships. Franc found that some of his peers were not interacting enough, and although he decided that this did not negatively impact his learning, he pointed out that the lack of proper interaction "certainly didn't help". Lilly gave a sophisticated reply when she was asked about the impact of interaction with others on her learning:

> … interaction for me is two things; one interaction I read and… according to the requirements I 'response' to them … either giving feedback or comment or…… but

> the other thing, just reading and reflection, compare the writing in myself… that also another interaction… that part may not be known by any one… maybe only me. (Lilly)

Lilly's words were about clarifying that what might seem to be lack of participation from her side is attributed to an internal reflection process in which she interacts internally with what she reads;

> … but I read more than three and I think …of the concept more than three… but for the three I choose, I write and the discussion continue, but even then for those who I do not write… … I still reading and thinking, and I even download it and I even keep their references… (Lilly)

Lilly discussed how the time constraint made it difficult for her to respond to all the ideas she was interested in. She also talked about her strategy of dealing with discussions where she would do some internal interaction, i.e. "reading and reflection" on the discussion she liked and kept some posts to be read later on when she had more time. Such a strategy might be understood by others as lack of participation.

Regarding lack of participation, in general, student participants either analyzed the reasons behind their lack of participation in the discussion or the team forums, or discussed the impact of the lack of participation of others on their learning or maybe how it feels when their posts were ignored. A main theme was devoted to feelings, so they will be skipped from the discussion of this theme.

Meg, for instance, argued that the lack of responses to her posts in some teams implied that her team mates "did not have the prerequisite knowledge to interrogate [her] postings, like to ask [her] sufficient questions regarding what [she] post…". She also declared that the lack of common interests with her team mates negatively impacted on participation and hence

overloaded her with work to compensate for the gap in her learning caused by the loss of rich participation. Interestingly, Meg described the learning design that aided participation and promoted learning through engagement with other learners, or social learning:

> … and I thought the contribution where individuals were asked to contribute different pieces, and then compile the summary document was the most cohesive piece of work… um… and engaging piece of work between myself and teams. (Meg)

Actually, Meg's description of the 'cohesive piece of work' matches to a remarkable extent with the 'Conversational Framework' (Laurillard, 2009), where the feedback from peers plays a vital role in the learning process of the learner, and the learning activities are supposed to provide the proper context for reflection, reconsidering the practice in light of feedback, and repeating the practice to develop the learning product. More of this is to be explained in the discussion chapter.

Nora did not show much interest in the social learning process, hence did not refer much to participation, and Zak almost ignored participation in his responses to the interview questions. Actually, complaining about the huge load of the programme consumed much of Zak's attention while responding to interview questions. Sandra thought that small group activities enhanced participation because of the limited number of team members. She added that each team member would feel obliged to participate, and explained this by stating that:

> …because there's only a few of you and if nobody is really communicating and talking then… I mean, nobody will be learning anything. (Sandra)

Both Jane and Lisa, whose responses reflected awareness of social learning, shared also the idea of valuing participation; in Jane's case although the lack of participation from some team members was mentioned, in general there was a good level of participation in each module: "… but overall, I always have somebody in the learning team who share similar

interests … who could help me reflect on the issues… and discuss the issues that we were facing".

Lisa, on the other hand, talked about her disappointment when she had to deal with poor participation from others, giving an example of her peer who sent a response to a detailed post from her simply saying "I agree!" In another incidence, Lisa talked about how she dealt with the lack of participation from her team members in a certain module: interestingly, she realized that they were not participating because they did not know how to deal with the learning task, (i.e. she showed awareness of the cognitive state of the others regarding the learning task), then she shared with them her thoughts and previous experiences, and this way she helped them to start participating:

> … I did diagrams, I showed everybody my workings and how I was working my way through … … I scanned my pages, and I got incredible feedback from people saying; 'Now we see! Ooh now that you've given us a visual representation we can see what it is we're supposed to be doing and ummm… yes we agree, this is great I love your themes. (Lisa)

Lisa, in this incident, was aware of the cognition of others, responded to their cognitive needs through her posts, and they responded to her posts saying that they understood how to approach the learning task. When compared to what Hurme et al. (2009) described as socially shared metacognition, this incident seems to fulfill the conditions: "socially shared metacognition occurs when a group member's metacognitive regulation message contributes to the joint discussion about how to process a task" (p.504).

## 4.6. Feelings about Learning

For most student participants joining the programme was a positive learning experience, however there were some negative feelings. Adam was unique in expressing his disappointment because the programme did not satisfy his passion: "I was firstly brought into this programme thinking that it would be something else". Adam also complained about the lack of face-to-face interaction and its consequences such as the lack of 'real flow':

> … there was no real flow… …we never even talked to each other… we didn't know how each other… how we looked, or how we sounded like… (Adam)

Adam further summarized the interaction with peers in the learning forums as "just to get the assignment done.". During the interview; Adam often used the words: "frustration", "isolation" and "detached from the programme".

Nonetheless, Adam talked positively about the time when he used to 'Skype' with his first cohort, and described his experience during that time as "great" and "more enjoyable" adding that it helped to know that others were going through the same situation. Bella, who developed some friendships through her journey in the programme, talked positively about her experience using words like "great" and "wow". Franc talked in a more reserved manner and avoided expressing feelings, and when asked about his opinion of sharing chosen parts of his learning log with others he decided that he needed to protect his privacy to be able to reveal his true feelings in the learning logs.

Lilly went a step further: she talked about the feelings of others:

> I feel people… sometimes during the group work… people… some people expect more, right? (Lilly)

Actually Lilly was discussing how her English does not help her to do a well edited task which might be a burden on the team as they struggle to meet a deadline:

> sometimes some people might feel upset … but… other time I also get… a little bit depressed… (Lilly)

However, Lilly decided to give those feelings less importance; "but it's not much, you know… it cannot affect the whole thing, just a temporary feeling…". She seemed to give her positive feelings more attention in her responses by using words like; “happiness”, “enjoyment” especially when she described her interaction with others. She also described a “rapport” that developed among her cohort that made her "accept their feedback even though it's a critical one". She decided that rapport is “understanding” and “attachment” and this is developed not only because of the discussion of the “subject matter” but also because people talk of the social aspects of their lives such as families and work conditions. Surprisingly, she concluded her description of the rapport that developed in the online context and the positive feelings that she experienced due to this rapport by saying:

> …that also make us feel it's 'a good' things and we… we have more control over each other. (Lilly)

In other words, Lilly made connections between the developed rapport and one of the aspects of metacognition; i.e. ‘Regulation of Cognition’ according to Garrison & Akyol (2015). In ‘Regulation of Cognition’ learners control their approach to learning and/or contribute to controlling the learning approaches of others (Garrison & Akyol, 2015).

For Meg, the situation was different; she clearly stated that she was missing face-to face feedback from her colleagues and that she felt loneliness and was dissatisfied with the level of engagement from others. When asked about the suggestion of making virtual conferences as

part of the learning tasks in each module, Meg replied with enthusiasm referring to the diverse time zones as not being an issue:

> ..it should be a demand even if we don't have it as an entire group, I think it should be mandatory for the learning teams… … I'd get up at 3 O'clock in the morning to have a conference… call with someone. I mean we don't have to do it every time, but I think the sacrifice is well worth the gains that people see, so that's not an issue for me. (Meg)

In general, Meg showed enthusiasm about change in the design of the programme. Nora who thought of the social interaction as a source of social support expressed positive feelings as others showed sympathy to her struggle with internet service, and the other outcomes of the political instability that she had to deal with "… I mean I felt the support from people…". That support seemed to satisfy her and make her overlook the engagement level or participation and its impact on her learning:

> I mean, it's just a support, you get to feel that people understand where you're coming from… it gives you… it encourages you to work… it gives you this enthusiasm to continue … that people are understanding your context and how… trouble it is… it keeps you focused… it keeps you feeling this positive aspect … that's, no, I want to learn, I want to continue despite what's happening. (Nora)

Nonetheless, Nora provided a critical view of having teamwork all through one of the modules and expressed her feelings about the learning experience; "…I felt that it wasn't interesting anymore."

In contrast, Sandra made straightforward connections between positive feelings like 'trust' and 'confidence' and engagement in the learning process:

> …when you're comfortable with each other, right? You'll ask questions if you are not sure and… and, when you are not sure about something you discuss it, let's say… you'll ask more questions and you'll be more comfortable to explain your

> point of view… … So it's just… people in general once they're comfortable with you, you know, it's like developing more trust… yeah. (Sandra)

Sandra joined most other participants expressing her dissatisfaction because of the poor feedback from tutors, the lack of face-to-face experience which lead to feelings of isolation. Regarding face-to face interaction she added that she appreciated it when one of the professors posted her introduction as a video:

> ...it was more a face-to-face thing… you were more involved, it's not just pen and paper… because we were able to see her… she was … talk to us… that close she could get to us, she could talk to us on the video, and I… I liked that module, and I wish all the modules were similar to that… it seems that they're adapting that… I'm not sure… but that was a good move. (Sandra)

Just like Sandra, but in different words, Zak established a connection between positive feelings towards learning colleagues and engagement in the learning process:

> I'm more comfortable in discussing ideas with my peers when I develop friendships with them, and even when I have concerns regarding learning, um… I have concerns about them, it's very easy for me to open up for them… … sometimes I get apprehensive about asking questions with someone whom I'm not close to, so when you have friendships with a lot peers, it's so much easy for you to ask questions… or to be critical, it's a lot easier. (Zak)

Both Sandra and Zak seem to provide views in agreement with the results of Swan (2002) regarding the importance of 'active social presence' in online learning contexts. Zak spoke positively of the role of social interaction in supporting his learning and to his attitude to learning:

> …knowing that people are in the same boat as us actually helps us to move on. (Zak)

However, there was some detailed description loaded with negative feelings about the stress due to the huge load of the programme and the struggle to balance family needs, work demands and the heavy load of the programme:

> Two years of reports… continuous reports, week after week after week… (Zak)

Such feelings of stress recurred quite a lot in his responses, and then a tone of anger was added as he described the misconception people usually have about online learning being easy and not demanding! Although the word suffering was heavily used in his description of his experience as a doctoral student, he later on positively explained that he felt 'good' at his accomplishment:

> looking back, I feel good… I feel good knowing that, you know, it was stressful and quite demanding but I was able to do it… (Zak)

Jane's responses seemed to reinforce the proposed relationship between positive feelings towards learning colleagues and engagement in the learning design just like Sandra and Zak. In Jane's case, the variety of learners was appreciated not only because it provided "emotional support" but also because it was academically beneficial. Jane expressed her satisfaction with the programme's design, the level of engagement she experienced, and the friendships she developed. She used words like; "feel the community of.. with all the learners", "providing support", "emotional support", "that was nice", "motivating and engaging", "I liked how it was structured", "it was fine to me".

Actually, Jane decided that she liked online learning contexts and for some reasons preferred it when compared to face-to-face learning;

> You know, sometimes it's kind of hard to just think in depth and be reflective at the moment… …I feel like I can convey a more intelligent response in writing than… than face-to-face-interaction. (Jane)

Lisa joined most other participants by expressing feelings of loneliness and dissatisfaction with the lack of participation from others;

> I felt like I was just crying out into the wilderness and not even getting an echo back! (Lisa)

Lisa added that she "begged" to be moved from the team that she was referring to in her comment.

What was unique about Lisa is that she described her mixed feelings at being a student in the programme while an expert at work, and how that made her incapable to share her "ignorance" and "insecurity" with all other learners and preferred to share it with only one or two others. Maybe, just like Franc, she needed to enjoy some privacy. But her approach to satisfy her need of privacy was different; she developed few friendships to share her feelings with, while Franc decided to open up in the learning log. Actually, Lisa struggled to keep her suffering from others because she believed it was more professional that way, and hence she could not decide whether she liked learning teams or hated them:

> … I guess I felt that… you know… at this level we should… you know... share a social amount of... of our struggles …but also... also maintain a kind of professionalism that... at... at this level to... to get the work done... but you know! I really... this whole learning team thing... ummm... I had such a love-hate relationship with the learning teams. (Lisa)

Interestingly, Lisa described her hesitation towards sharing something social in the learning spaces because a particular tutor seemed picky! His response to one of her emails surprised her as he shared social details about his family with her;

> …and it was like… wow! Suddenly he turned into a person. (Lisa)

In general, student participants expressed feelings of loneliness, isolation, and dissatisfaction at certain incidences when they did not receive detailed feedback or when their posts were ignored by others. Positive feelings were generally experienced when learning occurred in social contexts.

## 4.7. Locus of Control

A theme that recurred in the responses of student participants was related to how having control over their learning or experiencing situations in which others have control over their learning impacted the learning experience. Adam talked negatively about having to reorient his thoughts to respond to the 'guidance' of the tutor. Describing his attitude towards having the locus of control at the hands of the tutor, he said:

> …so then, I had a lot of guidance from them… and that was bad, yeah. (Adam)

On the other hand, Adam talked positively of the learning experiences when he had more control over the learning process; such as the cases where he would help other learners use certain technology tools in their assignments. In general, students having more control on the learning process seemed to be more appreciated by Adam. In one context, Adam argued that it is a decision of the learners to be “responsible” or “metacognitive about their learning”. In another context Adam described the learning dynamics in a cohort that he enjoyed working with:

> So, if there were some of the other students who didn't really understand how to use it, I was willing to help them and then vice versa, they were able to help me with the content, and it was just an open environment. (Adam)

Bella also talked negatively about having lack of control over the process of putting learners in teams;

> I'm not entirely sure who decides who we're working with, and how much they know about the people they're putting together. (Bella)

Lilly made a comparison between whole group and teamwork learning activities. She described the positive aspects of each learning activity by clarifying that while learners can go more deeply in discussions through small group activities or teamwork, they have more control about the areas to choose to talk about in the whole group discussions. In comparison to teamwork, she described her experience with whole group discussions by stating:

> …so we have a variety of areas, and as well as I have more control over what I want to choose… what I would like to present … what I'd like to ask. (Lilly).

Meg showed awareness of who had the locus of control and how one student could have control over the class most of the time. Actually, Meg blamed the tutor for not having the locus of control in order to make students change their choice of discussion topics to keep on track to accomplish the learning task. Again Meg complained about lacking control about the choice of the learning team to work with.

Nora preferred the whole group activities simply because she had more control about when to participate and who to respond to, while in the teamwork;

> …you tend to take it loosely… I mean you would wait for others, and you would see their input. (Nora)

Sandra tackled the topic of "social understanding" and how it is related to students having more control over their learning and less imposed structure:

> When we wouldn't have so much structure, you know, when we were allowed to be more creative in how we responded to each other and how we worked with each other… and we were allowed to, you know?... like plan more how we would

like to do our presentations and so on… you know, that's when we really learned a bit more about each other in the group… yeah. (Sandra)

Zak decided that he enjoyed more control over his learning when doing individual work, and that was why he liked doing individual assignments more than contributing to teamwork. Further he preferred the thesis stage when compared to doing the modules because he enjoyed more control over learning when doing a thesis. Again Zak talked about the load of the programme and decided that to have deeper learning outcomes, learners need more control over their learning and less load; he suggested including weeks of social interaction to let learners have more control to deepen understanding and loosening the programme load. In that regard he criticized the design of the programme:

…3 days we do our reading, we write our report, 3 days to be critical to other people's work… we do not control, there's a lack of control there. So, no reflection! After one year I was struggling my best to drive up myself actually… ha ha. (Zak)

Lisa positively spoke of the control of the team over her contributions as a member of the team;

... if the team voted and said no... you know! We're not going to use that idea... you had to let it go... and this was... this was really ahhh... that was good! (Lisa)

Then she implicitly referred to the control of the tutor as a factor that promotes the success of the teamwork using the expression of "the engagement of the tutor". Nonetheless, Lisa was clear that she needed full control over her approach to writing her learning log, and that was satisfied as she included cartoons and diagrams in her learning log.

For the others, locus of control was implicit. Take Jane for instance; she slightly tackled the theme of locus of control in her responses; as the instance when she positively described online contexts because communicating in text would give her a better chance to "form a more intelligent response". It seems that she had more control over her approach to provide

responses in online contexts (communicating through writing) in contrast to face-to-face communication.

## 4.8. Obstacles against Social Interaction

During the interviews, social interaction rather than social presence was used because the latter concept is less familiar. It was hoped that student participants' responses would indicate something about social presence. Although obstacles against social presence were not directly addressed in any question, the theme emerged and its codes recurred quite often all through the interviews.

Most student participants expressed the need to have more social interaction: for some it was to satisfy the need for emotional support, and for others it was more related to learning. However, student participants provided varied indications of what might be an obstacle against social interaction with tutors and other learners. The main obstacle for Adam was the lack of common interests:

> …if I had… interacted with people who had the same interests, and the same goals and mind… that I… maybe I would be more engaged with the conversations… or I would make more effort. (Adam)

Adam also mentioned that his background, thoughts, and mindset "… maybe not resonated with the majority of the people in the class…". Lack of common interests was also discussed as an obstacle against social interaction by Lilly, Meg and Nora.

Adam, Bella, Franc, Nora, Jane and Zak decided that having cohort members of dispersed time-zones is a considerable challenge to social interaction. Zak talked about the struggle to make it possible for a team of varied time-zones to meet:

> …it is really challenging … … in one particular group session, we had spent a lot of time trying to get people together instead of doing the work… that's a problem… (Zak)

In an indication of the negative impact of the lack of face-to face interaction on social interaction, Franc described the attitude of learners at the beginning to be 'reserved', and thought that some face-to-face interaction through technological means is helpful because "it breaks down barriers and it makes people more comfortable with one another" (Franc). The same obstacle was identified by Jane and Lisa. In Lisa's case, it was explained that people would deal with each other as anonymous when dealing with 'just names'. She foresaw a better attitude towards social interaction when people get to 'know' each other;

> …but if it's... if it's a face and a person and you know that face and you know a little bit more about them... I think it'll be less likely to let them down in the team work… it'll be less likely to leave them hanging... not answered. (Lisa)

Meg indicated the lack of control over choosing her team mates as a barrier against having fruitful social interaction. When she was asked to give her opinion about changing the learning design such that students are sources of data for each other, she described some of her colleagues as being not open;

> … I also felt that many learners… were not open about what it was that they would do… … I found that persons lock the experience… (Meg)

Nora confirmed her attitude towards social interaction when she was asked about her opinion regarding having virtual conferences as a compulsory learning task in each module; again Nora overlooked the role of social interaction in the learning process:

> I'm just going to say this… just directly, you know… when you get to apply to an online programme, you are not actually thinking … social interaction as such… … so when I am in the programme I'm not seeking to have social interaction as to build my social network or my social relationships, but I think if it is to be a structured thing throughout the programme it'll be good to bring together people of similar interests over social discussion boards or social interactions. (Nora)

Interestingly, when Nora was asked about any further suggestions that she would recommend regarding the doctoral programme, she suggested some means to continuing the social relations that developed through the programme after she finished her thesis that overloaded her:

> I'm not sure how this is applicable but… yes if there is a way that such relationships or such learning teams are… continuing to take place. (Nora)

Sandra tackled another obstacle that was not clearly mentioned by others; for her the doctoral programme seemed to be over-structured such that it did not support social interaction among learners. Sandra said that she did not enjoy much social interaction during her doctoral experience. She explained that she preferred small groups for being less structured in a way that nurtures social interaction:

> the only time we really interacted was when we were like put in our groups… … it wasn't that structured… so you could write emails, you know… more comfortably… … you know? it was like a close up band… than… than when we were interacting in the discussion forum and so on… in the big group… (Sandra).

Protecting privacy was an issue for some participant students such as Franc, Jane and Lisa. In Jane's case, confidentiality of organizations was mentioned as an obstacle against social interaction especially when work conditions become the discussion topic among learners:

> … you don't want to share too many specific details about your organization … um, because … … if the information was released was that… … sometimes it wouldn't be good for you professionally maybe… (Jane).

Lisa went further as she identified the sensitivity of certain cultures and contexts as barriers against deeper interactions;

> there were occasions where I did have to hold back because they were some sensitive issues that I couldn't just say what I thought or felt or um… even my organization as well. (Lisa)

For Franc, protecting privacy emerged as an issue when the suggestion of sharing chosen parts of the learning logs with learning colleagues was discussed. On the other hand, Adam, Lilly, Nora and Zak identified the learning design itself as an obstacle because of its stressful overloaded structure that did not allow for enough time to interact with others or even to reflect on the themes to contribute to deeper interactions with colleagues. In other words, the participants raised the issue of 'effective time-management' which is often discussed in literature (Dobozy, 2013).

To help participants open up and be critical about their learning experience, a few suggestions were introduced in the interviews. The potentials of implementing such suggestions and their impact on social interaction and metacognition were discussed. These discussions consumed a large portion of the interviews and a lot of the analysis effort. In the following, a summary of student participant responses to these suggestions are included:

All participants, except for Nora, welcomed the idea of having virtual conferences. Nora decided that she would attend such conferences only if they were a compulsory part of the programme.

The suggestion of keeping a balance between small group activities and whole group activities sparked deep discussions and received less consensus. Among the participants, Adam, Bella, Jane and Meg preferred the current design of the programme and one of the four participants, Meg, added a suggestion of switching groups towards a midpoint in each module.

One of the participants, Zac, decided that he prefers more individual work to enjoy more control over his learning. All the others, Sandra, Nora, Lisa, Franc and Lilly favored the suggestion. However, Lisa was less enthusiastic about the suggested change as she showed more satisfaction with the learning design of the programme. Both previous suggestions were extracted from student participants during the group interviews.

The suggestion of changing the weekly learning design of whole group activities -such that students are exposed to the varied views of their peers before submitting their main discussion at the end of the week- was generally accepted. The suggestion was informed by the 'Conversational Framework' by Laurillard (2009). According to this suggestion, students post their primary ideas after doing their readings at the beginning of the week, while the main post is to be developed after maturing their ideas through discussions at the end of the week. Seven student participants out of ten favoured the suggestion with one of them further extending the suggestion by expanding the learning design unit to be two weeks rather than one, and another suggesting having a combination of both designs through the modules. The other three participants, Bella, Franc and Nora could not make up their minds about this suggestion.

Using other learners as sources of data by designing the learning tasks around the professional experiences of other learners was another suggestion driven from the 'Conversational Framework'. This suggestion was positively accepted by six of the student participants, with one of them worrying about time, and another expressing concerns about the effectiveness of the engagement of other learners. The other four participants expressed doubts about this suggestion.

The exchange of more personal and contextual details about members of the learning community received even less consensus although it was suggested by some participants in the group interviews. Only four student participants favoured this suggestion. The other six participants either rejected the suggestion or expressed their doubts about its value to learning.

Clustering students of similar interests so that they can share parts of their choice of their learning logs was another suggestion informed by the participants through group interviews. Adam, Meg, Nora and Jane welcomed the suggestion unconditionally, while Lilly and Sandra put the condition that contribution is optional for this suggestion to work. Interestingly, Lisa suggested having clusters of variety of interests to make sharing of the learning logs valuable to learning. Zac, Franc, and Bella rejected the suggestion because learning logs are either too private or because their learning logs were too informal to be shared.

On the other hand, sharing the reflective assignments that students submit after each module and which include their reflections on the learning experience of the module, attracted more consensus. Seven of the participant students welcomed the suggestion and found it valuable for their learning, Lisa again raised the issue of variety in interests to increase the value of the sharing process. Sandra could not provide a specific opinion about it while Franc insisted on rejecting the suggestion just in agreement with his attitude towards the previous suggestion.

In this chapter some of the results of this research project are explained. Although student participants were of varied cultures, being in a programme that is globally oriented, they seem to agree on many aspects about their critique of the programme. Considering the theme of 'awareness of own learning', the responses of student participants were highly consistent. On the other hand, 'social learning' was less indicated in student participants' responses. Conflict or different perspectives was more about the value of different perspectives to learning. Transformation emerged as a theme that reflects participants' experiences that lead to change in attitudes, beliefs, or approaches. All through the interviews participant students came across 'participation/or lack of participation' to the learning spaces of

themselves or the others. The quotes associated with this theme provided a good image of how people expressed themselves in the learning community and how their participation in the learning spaces contributed to making them perceived by others. 'Feelings about learning' was a theme that received less consensus when compared to other themes, as student participants expressed mixed feelings towards their learning experiences. Nonetheless, their feelings were mostly related to how they interacted with others or they were reflections of how they expressed themselves or performed their identities. 'Locus of Control' was differently approached by participants; while most of them wanted to enjoy more control over their learning some of them requested a higher level of control from teachers. In general, locus of control was often approached in a way related to how members of the learning community expressed themselves. The theme of 'obstacles against social interaction' reflected some of the critiques against online learning discussed in previous literature.

In addition to the explanations of themes that emerged out of the data analysis process, this chapter included a summative paragraph about student participants' views of some suggested changes to the programme. The summative paragraph provided some indications of where consensus was reached among student participants and where their views diverged.

Two sets of qualitative data were collected and analyzed in this research project; the first was of the semi-structured interviews of student participants, and the second was of the semi-structured interviews of tutor participants. Results related to the second set of data, four tutor participants, are explained in the next chapter. The two chapters provide the background for the arguments of the discussion chapter.

# CHAPTER 5: RESULTS AND ANALYSIS OF TUTOR PARTICIPANTS' INTERVIEWS

In this chapter results of the four semi-structured interviews with tutor participants are explained. With tutors, the interview questions were more direct at addressing the main concepts of the thesis when compared to the questions used with student participants. This is because tutors are anticipated to be more aware of the metacognitive process and social presence as concepts within the online learning community. Nonetheless, the question about suggestions to improve the online learning design for the doctorate programme at question was used in tutor interviews just as it was used with student participants. The responses to this question were rich and provoked deep and valuable critique of the learning design addressed in this thesis research.

The thematic analysis process of the data collected from tutors' interviews resulted in the emergence of 7 main themes which are; Feelings towards tutoring in the programme, Learners' engagement in the programme, Obstacles against social interaction and deep learning, teachers' strategies / control over learning, reflections on the programme, opportunities for Individual deep learning (metacognition), and social learning. Meta-themes combine themes of the results of tutor and student participants together to contribute to a more comprehensive view of the learning community addressed in this research project. However, meta-themes are to be discussed within the discussion chapter.

Despite the apparent resemblances with the set of main themes of the student participants, the codes that were compiled to produce those themes are different than the codes of the student interviews as they reflect the unique perspectives of tutors. Pseudonyms are used with all participants including tutor participants. The online doctorate programme that

was addressed in this thesis research is referred to as 'the programme' as in the previous chapter.

## 5.1. Feelings Towards Tutoring in the Programme

Tutor participants expressed a mixture of feelings during the interviews. Some feelings were explicitly expressed while others were implicit. Rose, who has many roles in the programme, expressed her appreciation of the opportunity to work for it; "I'm very fortunate" was one of her recurring statements. Specifically, she appreciated the opportunity "to see the programme grow and establish itself". In another context Rose talked about the interesting opportunity to see how the learners "… float over to that practitioner researcher in a way that's really important". Further Rose expressed her gratitude to the writings of the students who "enriched" her life with their writings about their experiences:

> … how else would I know…um... have I learned so much about all the different educational institutions around the world, and the lives that their students have within those roles, without this programme? Right? (Rose)

Other tutor participants expressed positive feelings as well. Alice, despite complaining about the poor social presence in the programme, shared her appreciation of a certain learning activity:

> For me, I valued the discussion questions a lot. (Alice)

Devotion to the programme was common within the tutor participants, sometimes explicitly expressed as when Justin asserted:

> we can improve the social interaction inside the class… we can prevent drop out students, we can enhance motivation of the students… (Justin)

Justin further showed enthusiasm as he suggested the means for this:

> We can create emotional links between the students and between the student and the tutor… that will help in order to develop more the metacognitive processes. (Justin)

Justin concluded his answer by emphasizing his deep belief in this "I don't have any doubt about that".

On other occasions devotion to the programme was implicit as when some participants showed excitement about certain suggested changes in the learning design of the programme, such as Mary who used words like "very good" and "it's worthwhile as well" to express her approval of a suggestion about sharing parts of the reflective writings that students produce in fulfillment of the requirements of the programme.

Nonetheless, participant tutors expressed negative feelings as well. All tutor participants showed dissatisfaction with the level of social presence in the programme. Rose admitted that:

> I think that's one of our weaknesses right now…we have not done a good job socializing our classrooms. (Rose)

Alice seemed to pin down the aspect of the programme responsible for this 'weakness'; "… all the design miss social presence…". Justin thought more could be done in regards to supporting social presence and Mary regretted that:

> …there's not enough social interaction in the [Programme], in my view… … So, what I can see is that there is a very, very rare … minimal social aspects in the [Programme]… (Mary)

Other feelings were expressed; such as positive feelings towards certain aspects of the programme, expressing respectful attitudes towards learners, or regretting the rare

opportunities to reconsider the design of the programme. Interestingly, concerns about the tutor workload were mentioned only once by Mary when she discussed the applicability of having a space in which students can share and comment on chosen parts of their reflective writings to promote metacognition. Further, Mary showed skepticism about the achievement of learning outcomes when she was debating for less content and more time for each learning task:

> …are our students really achieving the goals, the module goals every week with the work they are submitting? Are they achieving, really, realistically the goals because they are submitting a product? Or, they are just submitting the product without achieving the goals? (Mary)

The doubts of Mary seem to reflect some of the critiques discussed in previous literature (Bejerano, 2008; Rourke & Kanuka, 2009). Mary, however, is attributing her doubts to the limited time available for the students to reflect and achieve metacognitive outcomes, rather than to the online contexts or the lack of face to face interactions as argued in Bejerano (2008).

## 5.2. Learners' Engagement in the Programme

Comparison between the participation of students in different learning tasks recurred quite a lot in tutor participant responses, which is expected because such comparisons were implied by one of the interview questions, about the learning tasks that best promote social interaction and support metacognition. Rose argued that students experience higher risks of lack of participation of other learners when in learning teams simply because there are limited numbers of members within each team when compared to whole group activities/discussion board tasks. Rose's argument was supported by Alice's preferences who gave much value to discussion board activities.

Further, both Rose and Alice decided that a good dynamic in learning team activities is dependent on the personality and attitudes of the learners reflected in how much they participate. Alice explained:

> … for some students they do minimum when they learn with their learning teams… when they're in the discussion forums, because of the minimum requirements… it's like they're expected to post a certain number of posts which forces them to read and respond. (Alice)

Nonetheless, engagement of students in the learning process supported by the programme seems to be impacted by many factors. Tutor participants came across this concept quite often in their discussions. Rose described active participating students to be "risk takers" while those who have a poor level of participation as "reflective", and " they will post what they think is safe". However, there was a large spectrum of factors identified by tutors as being of impact on the level of participation of students. For Rose the learning task itself was emphasized:

> … but I think it's very much dependent on the group members, the module… in particular what is it that they've been asked to do. (Rose)

On another occasion, Rose described some learning tasks as being "superficial" and suggested that such learning tasks have a negative impact on student participation. Alice, on the other hand, pinned down the participation of the tutor as a main factor:

> I've realized that if in any discussion… if the instructor participates more students also participate more and they look for outside readings to contribute towards the discussion. (Alice)

In addition to the personality of the learner and the participation of the tutors, the role of other learners was mentioned as a factor at play in the engagement of the learner in learning spaces. Alice described the learning dynamics when other learners do not participate:

> [They] post their initial discussion question… no body respond to them, then they respond to their peers, no body interacts with them… (Alice)

The "type of the students" was identified again by Justin as a main factor impacting the level of participation or "interactivity" in learning teams.

Mary discussed another factor impacting student participation; when asked about her opinion of encouraging students to share chosen parts of their learning logs she said:

> …but students will do that if that's part of their assessment… let's say if that counts, otherwise probably, it is unlikely they'll do that. (Mary)

Mary further provided an incidence when one of her students used the learning space for the parallel module (a segment of the 10$^{th}$ module), which is a pass/fail module, to publish a post but "no one responded to her… she was there alone!" (Mary). The incidences provided by tutor participants about students suffering from the lack of interaction echo the critiques of online contexts described by some authors, mainly critiques about the lack of peer interaction and feelings of loneliness or frustration (Allen & Seaman, 2006; Bejerano, 2008).

This theme redirected the analysis process. Rereading the quotes implied a new theme; identity performance. Looking back at most of the themes explained in this chapter and the previous chapter, it seemed that the way people perform their identities in learning spaces plays a vital role in directing the learning process. Hence identity performance emerged as a meta-theme. More of this is to be explained in the discussion chapter.

## 5.3. Obstacles Against Social Interaction and Deep Learning

There seems to be a good level of agreement among tutors in regards to identifying the obstacles against rich social interaction. Mainly, dispersed time zones and the consequences of that on opportunities for synchronous and face-to-face interactions were identified by all participant tutors. The huge work load of the programme, bearing in mind that the learners are already professionals who occupy demanding jobs, was also identified by tutor participants as one of the main obstacles against social interaction, hence against providing social support for the learning of others. However, tutor participants discussed the latter obstacle from varied perspectives; for Justin it meant that learners 'organized' their priorities:

> They [learners] organize their activities in order to achieve the task and the deadline… and the support of each other learning are… a secondary thing. (Justin)

For Alice, it meant that some students felt being "pushed too much" by their peers, and for Mary the huge load of the programme is an obstacle against deeper thinking or reflection:

> If you want to have a revised version of my idea, I need time to think about that… I need time to read all my peers' thoughts, I need time to read all the resources, and I need to elaborate these… information, and to think about that. One week is not enough! If you count that I have also family, I have also job… perhaps, I've a very demanding job… 4, 5 days are not enough! (Mary)

Rose mentioned the demanding programme and its heavy work load as obstacles against the achievement of deep learning and social interaction in a way that echoed the complaints of some student participants (Zak). However, Rose was too occupied with discussing cultural differences among learners as barriers against active social interaction:

> In certain languages; their pattern of speaking is more … umm… to the point… which means, it is almost… there is no flowery words to it … and so as a result; they say what they say… and that's it… They don't bring other words in to question the main idea, and so it comes across the text, that … as if they are… um… cross with you. (Rose)

Cultural differences were further discussed by Rose, and more specifically the "educational tradition where the teacher was the authority" which is common in certain cultures, and which makes learners resist the feedback from their peers. This particular perspective found support in Mary's suggestion that the tutor should set the proper atmospheres for more social interaction that support learning:

> I think there's something first of all the tutor can do, because students rely very much on the tutor first of all. Once the tutor has set the right atmosphere, then students can go and depend on themselves. But first students need to understand what the atmosphere is expected to be in the specific module… is there an atmosphere where I can also discuss about… somehow, my personal matters? Do I have the chance to do that? Or is it a relaxed atmosphere? or it's a kind of a strict atmosphere where people are only competing among each other… they're not helping each other? (Mary)

Alice discussed the atmospheres of the programme or its culture and furthered that idea by making connections to the design of the programme:

> … all the design miss social presence… … teacher presence is there, cognitive presence is there because they are discussing content, but social presence is not being 'scaffolded'… it's not explicitly supported. (Alice)

In another context, Alice explained:

> Students are not made aware that they can discuss such issues… social issues within the learning space. (Alice)

Further, Alice provided an instance when she was criticized by her students as being unprofessional because her post included a smiley face.

The design was raised again by Mary in addition to time constraints as the main issue not against active social presence but against metacognition:

> My main issue is the issue of time only. You have… when you design a programme you need to develop the right amount of time to develop metacognition. If you have all of these aids and you give people 2,3 days to do that… they cannot develop metacognition. (Mary)

The mixture of obstacles against social interaction and deep learning discussed by tutors paved the way for a discussion of how they dealt with those obstacles. Hence, the strategies and approaches they adopted or seemed to favour emerged as another theme which is discussed next.

## 5.3. Teachers' Strategies / Control over Learning

In general, allowing for more control of students over their learning emerged as the most advocated strategy by participant tutors. However, tutors' approaches to giving students more control over their learning varied. Rose and Alice referred to their experience to suggest letting students choose their teams. Bearing in mind that there are students who prefer that the tutor choose for them, Rose decided that the tutor should deal with this issue. Supported by her own experience, Rose argued that team dynamics have a better potential if learners are asked to choose their teams after they have a chance to get to know their peers:

> let's say we asked them to do their team in week 4… well they got 3 weeks to know each other… (Rose)

Alice clearly declared her opinion about learners' control over the choice of teams:

> … if they chose to work with their peers… that's ok. If you assign them, you assign them trouble. (Alice)

On the contrary Justin asserted that he would usually assign students in their learning teams:

> … when I make the learning teams in my module… ok? I don't leave it to the students. I do the learning teams, and I always put contrasting students in the same learning team. (Justin)

Justin concluded his idea by stating: "I like to mix students". However, Justin, who argued that more could be done to improve social interaction, suggested giving students more control over their learning within new arrangements in the learning platform:

> … maybe putting some different kinds of tasks and deadlines during the modules, giving some freedoms to some students during the module to create their own blogs, their own social interaction within… inside the module. (Justin)

Reconsidering the learning design was Mary's perspective about learners enjoying more control on their learning. Again her suggestion revolved around providing more time for accomplishing the learning tasks:

> I need time to think about that… I need time to read all my peers' thoughts, I need time to read all the resources, and I need to elaborate these… information and to think about that…
>
> … One week is not enough! (Mary)

Mary's suggestion about providing more time in this context was followed by a suggestion of encouraging students to refer to external resources to make the social interaction more interesting, to avoid the repetition of ideas and to enhance metacognition. In other words, Mary's idea about more learners' control included control of the learning pace and control of the learning resources.

Other teaching strategies and approaches were discussed by tutor participants. Some of these were suggestions while others were strategies already practiced by the participant tutor as discussed earlier. Alice argued for changing the culture of the programme into a more social culture where learners and tutors are encouraged to talk about their social issues such as birthdays, sorrows, or family occasions within the learning spaces such as the discussion board.

Alice's idea found some support in the words of Mary. The latter, however, preferred to have a different space for social issues while the learning spaces were to be kept formal and professional. Rose thought that including a blog where tutors and students can interact synchronously in a social manner can be of value for learning. She provided an interesting example of how the blog would be used to share references or opinions or "5 minutes' chats" that enhance social learning. Her virtual scenario included:

> …and I remember a student is interested at some aspect of… assessment, for example… wouldn't it be nice for me to see if that person was online, so I can leave him a bit of that 5 minutes… Hey I have found a couple of articles that you might be interested in. It isn't that I can't send him an email, it's not that I can't do it as a discussion posting, but it is different if you can do it that way because it is more social. (Rose)

This suggestion by Rose matches with Justin's suggestion of having some synchronous media for communication to make the discussions 'real' and allow people to have answers to their questions on time. Both suggestions seem to align with the demand for 'intimacy' and 'immediacy' which are supported by the findings of educational literature (Cobb, 2011; Plante & Asselin, 2014).

Alice explained that she would make sure that every student receives a response to her/his post, and if the student lacked attention from peers, Alice would address that student.

Interestingly, Alice would address more than one learner at the same time in a single post to promote social interaction among the addressed learners; a strategy that is confirmed through her experience and supported through the main role of teaching presence as suggested by the CoI theory (Akyol & Garrison, 2011).

The quotes within this theme reflect the various approaches used by teacher participants to facilitate the learning process. While the words of all participant teachers reflected their beliefs in giving learners more control over their learning, their approaches to applying this belief were different; some found it necessary for learners to practice some control over the choice of learning teams, some emphasized learners' control over their learning pace, or their learning resources. The arguments provided by tutor participants about their strategies and beliefs regarding online education were deep and reflective. Their critical views and reflections on the programme are discussed in the next theme.

## 5.4. Reflections on the Programme

As a result of their reflections on the programme, participant tutors came up with connections they believed to exist among certain factors impacting the learning process in the programme. As the previous theme implies, there is a level of agreement between participant tutors on the positive relationship between the control of learners over their learning and social interaction in the online classroom or the learning dynamics. However, control over learning is perceived differently by different tutors.

Further, the participant tutors argued for a positive relation between social interaction and aspects of deep learning such as reflection, critical thinking skills and metacognition. Rose discussed the connection between 'deep learning' and social interaction:

> … but the deep learning doesn't really, in my opinion, … doesn't really get reinforced unless they've got to show evidence on it in a way that involves others. That's why I think that learning… individual learning … even if they were individual stake learners…they will ultimately still need to demonstrate their learning within the social environment of others… (Rose)

Highlighting the learning design, Rose argued that the designers would naturally hope that both 'Social Presence' and 'Cognitive Presence' would "work well, and that together, the members of the class will scaffold each other in their learning."

Alice was more precise when she argued for a connection between social interaction and metacognition:

> Social interaction … they do support students' metacognition… …for me, I believe, students need to interact with the tutor, interact with each other… in metacognitive way… also in social ways. I do believe that social is an important part of learning. (Alice)

Alice extended her idea even further by pointing out that social presence should be supported "within the learning space to support metacognition."

Justin clearly expressed his belief in the positive relationship between social presence and some aspects of deep learning:

> …when we have a social cognitive conflict, we can develop our thoughts and our critical thinking skills in order to reflect about things in other ways… different than we have before… and when we discuss with others a few points we can reflect in our own thoughts, and think if we… if we are completely right, or if we should consider other ways of thinking about tasks… about to use different strategies… cognitive strategies… (Justin) .

Justin raised an interesting point when he argued for the necessity of promoting social relations among students because the doctorate journey is a long one and students need the support of their peers to endure such a journey and enhance the learning of one another.

Mary decided to delve deeper into the aspects of social interaction that can be discussed in learning contexts such as "cultural experiences, cultural aspects, professional aspects and life issues as well" and came up with a belief about the role of social interaction:

> [Social interactions] can help stimulate metacognition, in my view, because it… help students think in a different way and to reflect in a different way on their learning. (Mary)

Mary concluded her argument with an implicit indication of transformation as a possible consequence of social interaction;

> … the social interaction become part of my background and what I discuss with others become part of myself… (Mary)

This view by Mary aligns with the description of the dynamics of the learning process in the Community of Inquiry (Garrison & Akyol, 2013), and with the insights of the Conversational Framework (Laurillard, 2012).

Other connections were also emphasized; Alice highlighted teaching presence as a factor of strong impact on learning dynamics in the form of student participation. Again, in alignment with the COI description of teaching presence (Garrison & Akyol, 2013).

> I've realized that if in any discussion… if the instructor participates more students also participate more and they look for outside readings to contribute towards the discussion. (Alice)

Alice also argued for a connection between social presence and feelings of belongingness. She attributed learners' abstaining from sharing their social details with the learning community to lack of feelings of belongingness:

> … they just feel that they don't belong to the group so they feel like their family life is… is a private life, they don't want to bring it into the learning space. (Alice)

The issue of belongingness was highlighted by Justin as well; as he agreed on the idea of sharing parts of learning logs or reflective assignments by the students, he pinned down the value, for learners, of realizing that there are many approaches for the same task, and the struggles that one would have are shared with others:

> … when we see this kind of thing, we feel motivated and more integrated in the group… so it's important to be… part of a group, not to feel isolated. (Justin).

Within this theme, participant tutors expressed their beliefs about the learning dynamic and the factors impacting the deeper aspects of learning. In general, active social interaction, or social presence, was related to deeper learning by all tutor participants.

Other connections that revolved around feelings of belongingness, engagement, social support and active social presence were also argued for by tutor participants. Participants' views within this theme emphasized aspects of deep learning. Through their responses and discussions, participant tutors came across learning design and the opportunities it provides for deep learning. Hence, opportunities for deep learning emerged as a separate theme.

Nonetheless, it was discussed by participants in the individual dimension as shown in the next theme.

## 5.5. Opportunities for Individual Deep Learning (Metacognition)

In terms of awareness of learning through reflection, both Rose and Mary identified the reflective learning activities such as 'learning logs' and 'reflective assignments' as where students show awareness of their own learning through reflection. Rose seemed to be convinced that students who are comfortable with the current version of learning logs do provide evidence that they are aware of their learning. Nonetheless, Rose pointed out that some students do not really like to write their learning logs and when they do write them, they don't really reflect on their learning.

Mary, on the other hand, identified the same activities as opportunities for reflection. She argued that reflection on learning is enhanced in the activities of the tenth reflective module:

> …they are requested to think about what they learned… How they learned alone… How they learned with others… And how much and what they learned… apply to the practice, and how did this process took place. (Mary)

However, when Mary turned to the learning activities of the main modules, she regretted that only a few of them support metacognition and identified a certain activity in which students were requested to think about "some good and bad experiences in the past about their learning and why that was that way". She concluded her argument by stating that such opportunities compose a "very minor part" of the modules.

Again, Mary identified "the short amount of time" allowed for the students by the programme to be blamed for the scarcity of opportunities to "reflect or develop metacognition", and she reinforced her ideas by students' testimonies: "students are complaining that they don't have time to, let's say, digest what they're reading, to reflect on what they're reading...".

Both Rose and Mary discussed how students experienced change during their learning process and how that change is apparent in their reflective assignments which are of the tasks of the tenth module. In that regard Rose clarified;

> … when they go back and they start thinking about who they are, and what that has changed about them, they realized the depth of their learning, they're not the same person anymore, they don't think about things the same way, they take a reflective mind towards things. (Rose)

On the other hand, Mary discussed the change in attitude towards learning logs:

> … towards the end of the journey, students start appreciating the… the impact, the 'fulfill-ness' that the log has on their learning and on the shaping of the proposal as well… … I can observe these slowly changes, more or less, in all the students. Yeah! (Mary)

Justin seemed to agree with Rose and Mary on the identification of the learning activities of the tenth module as opportunities of metacognition, but he attributed this to the active synchronous social presence in those activities since individual feedback for the tenth module is delivered through interviews between the student and the teacher. Justin explained this by stating:

> …because, we have a hell of a social presence in one-to-one tutorial… we have a synchronous relation, because we can ask questions and we can have answers on time, and that's… it's a real conversation… (Justin)

The discussion of the challenges facing students in their learning journey was mainly identified as supporting individual metacognition. Justin also identified "social cognitive conflict" as something that can support individual metacognition through reflection:

> Because when we have a social cognitive conflict, we can develop our thoughts and our critical thinking skills in order to reflect about things in other ways different than we have before… (Justin)

Justin furthered that idea by emphasizing articulating ideas with others as a means for 'monitoring of learning', just in alignment with Garrison and Akyol (2015). Justin explained this by stating:

> … when we discuss with others few points we can reflect in our own thoughts, and think if we… if we are completely right, or if we should consider other ways of thinking about tasks… about... to use different strategies… cognitive strategies… (Justin)

Alice moved in a different direction as she discussed students' capabilities to control their learning and the role of teaching presence in enhancing that:

> So the more you push them, the more they become kind of controlling their own learning in the sense that they… when feel pushed to think outside the box… they look for external readings. So I think that's really important; because when they're looking for external readings they're learning to kind of support their claims with relevant evidence from their experiences. (Alice)

Alice decided that learning teams provide opportunities for students to have more control over their learning individually and in a shared way. However, the social aspect of deep learning is discussed in the next theme. Participants' arguments within this theme provide a positive view of their belief that the programme facilitated deep learning. Nonetheless, they did

not show a high level of agreement on the identification of the learning activities that support or facilitate deep learning. Bearing in mind that the social aspect of deep learning is hard to identify, it recurred less often in the participants' responses. Nonetheless, there was enough of it to be discussed in a separate theme as shown next.

## 5.6. Social Deep Learning

Despite the difficulty of identifying the occurrence of metacognition, whether individual or social, as agreed upon by tutor participants as well as literature (Garrison & Akyol, 2013; 2015; Snyder & Dringus, 2014), some of the participant tutors could provide indicators of its occurrence as they closely observed the interaction among students. In this theme, the opportunities and indications of the social aspect of metacognition are discussed.

For instance, Rose identified 3 students in particular to be looking for one another, asking to be in the same team and "they will always be talking to each other in the main thread". The learning dynamics described by Rose might be an indicator of metacognition through enhancing the learning approaches of one another. She clarified this by explaining that each of those learners…

> …have recognized learners that they feel connection to and they feel confident in them to be able to stick out ideas that would upward the debate. (Rose)

Rose provided examples of discussions that might indicate social learning such as disagreement, or articulating different interpretations of the same reading, or suggesting further reflection to explore more. Rose could identify at least three students who practiced this:

> … I can think of three students in particular; they've always push each other boundaries. They're always pushing up… they're saying to really explore the top… and they did it consistently from module to module. (Rose)

Interestingly Rose described the learning dynamics among the three students as being advanced as she diagnosed the personality of one of them to be "aggressive" and how the other two dealt with that:

> it's a pretty advanced way of looking at your learning environment, is to put aside somebody's personality, to be able to see the value of it. (Rose)

Looking at this from another perspective, those students could 'perform their identities' in a way that allowed others to gauge their personalities and control their relationship to make it supportive for learning.

Alice also provided indicators of social learning and learning tasks that support social learning. For instance, she identified the discussion board activities which she described to be supportive of

> … both cognitive, collaboration and also… even metacognition… learning the content as well as learning to collaborate with others, being open to other views. (Alice)

Alice argued that learning team activities might provide good opportunities for learners to have more control over their learning and contribute to the learning of their peers:

> …if the learning team is working really well, the way they plan their deadlines, who is doing what and when, it shows a lot of control on their learning, so there are instances as well where you can see that they are supportive in their learning. (Alice)

Nonetheless, Alice expressed her concerns that learners often miss such opportunities;

> for some students, they do minimum when they learn with their learning teams… (Alice).

Alice identified some instances that indicate social learning such as when students ask one another; "can you please explain more on this? What do you mean when you say this?". Alice explained that such engagements are not very common:

> in a class of ten you can find two or three who are really into it… …when they engage in a back and forth, they kind of walk each other to learn… (Alice)

Further, Alice thought of such engagements as providing help for other learners to deepen their “conceptual understanding".

Identification of learning tasks that support social learning recurred in the arguments of tutor participants; Justin identified learning team activities, and more precisely the task of writing a team summary to be of metacognitive nature:

> … all the discussions to get a new summary, a new team summary, all that kind of discussion before the end of the summary is a metacognition process… (Justin)

Justin pointed out that reflections, cognitive and metacognitive actions are needed to start with different summaries of each member in the learning team and end with one summary for the whole team. Quite remarkably, Justin's tone reflected confidence that metacognitive processes occurred in the programme. He even used the words "I think there's no doubt" to assure the occurrence of metacognitive processes in the discussion board during whole group activities and in the learning teams when making summaries. He further concluded that metacognitive processes "happen on the [programme] on a weekly basis".

Justin also identified certain incidences as indicators of social learning; when a student talks about a new reference, then other learners suddenly switch their interests and learning into that reference and discuss it, and when students comment on one another's ideas adding new contexts to the same thought or providing different perspectives.

In contrast to Justin's views, Mary argued that the occasions that support social learning in the programme are scarce. From Mary's perspective, reflection, which is vital to metacognitive processes "can take place let's say… in a small way, in learning team area…". Further, Mary regretted that only few learning activities in the programme really supported metacognition, and provided a very precise incidence:

> …for example in [a certain module], they[/students] have to think about… some good and bad experience in the past about their learning and why that was that way for example… but that's a very minor part… so only some learning activities really provide opportunities. (Mary)

Expressing her doubts about the recurrence of metacognitive opportunities in the programme, Mary pinned down the main obstacle against metacognition:

> …so, the short amount of time available really don't help them reflect or… developing metacognition. (Mary)

This theme reflected a low level of agreement among tutor participants as they discussed the social aspect of the metacognitive process. While Justin showed much confidence that the metacognitive process recurred in a weekly basis within the social learning activities such as team activities and whole group discussions, the other participants were not so sure that the programme really facilitated the social aspect of the metacognitive process. The others were less confident about the effectiveness of the facilitation of the programme to the 'social metacognitive process'. Nonetheless, they could provide some evidence of the occurrence of

deep learning within a social context such as the three students who were recognized by Rose from module to module and who seemed to gain deeper insights through their social interaction.

## 5.7. Chapter Summary

As with student participants, tutor participants were asked to give their views about a set of suggestions and explain if they were of value for the improvement of the social interaction and deep learning production. The suggestions resulted in deep discussions and valuable critiques of the programme. To conclude this chapter, a summary of the responses of tutor participants to the suggestions and some questions is provided below.

As for the question about the learning tasks that support metacognition, three of the four tutor participants identified the reflective activities of the tenth module as being of direct impact on metacognition. The reasons behind their choices varied quite a lot; while Rose attributed her choice to the level of control over learning that learners enjoyed, Justin emphasized the immediacy of feedback. Mary, on the other hand, raised the issue of time allocated for accomplishing tasks as a main factor. Alice decided that the discussion board activities are where she often witnesses metacognition, and attributed this to the availability of varied opinions due to the large number of participants when compared with learning team activities.

None of the tutor participants expressed a high level of satisfaction with the current level of social interaction among the learning community in the programme. However, the level of dissatisfaction varied a lot. Justin gave a numerical judgment; he estimated his satisfaction

with the social presence supported by the programme to be 70%. However, he added that more could be done in this regard. Rose and Mary decided that social presence is poorly supported. Rose furthered her view by identifying this as one of the weaknesses of the programme. Alice expressed a low level of satisfaction attributing this to the formal culture prevailing the programme.

When discussing the suggestion of including virtual conferences in the programme, Rose came up with an alternative suggestion to build a synchronous communication channel within the programme. Alice agreed on the suggestion, and decided that if more control were given to students to overcome the obstacle of dispersed time zones, virtual conferences would be of value to both social presence and deep learning.

As for the suggestion of keeping a balance between whole group activities and small group activities/learning team activities in all modules, the responses of the tutor participants reflected their satisfaction with the learning design of the programme: all but Alice rejected the suggestion. Alice explained that she would agree on the suggestion because it meant keeping a variety of learning approaches, and variety serves different learning styles of students.

Satisfaction with learning design mixed with reserved and cautious attitudes towards changes in the learning design within whole group and small group activities marked the responses of Rose and Alice to the suggestion. Both Mary and Justin agreed on the suggestion of changing the design of the whole group activities such that the main discussion post is submitted at the end of the week after peer discussions take place. As for the change in the small group activities such that the learning task is oriented around the experiences of other learners or peers, Justin found it impractical for being culture sensitive, and Mary agreed on it if learners were given more control and freedom to seek other sources as well as their peers.

A consensus about sharing more personal and contextual data among the learning community was achieved. However, sharing chosen parts of the reflective textual products of learners received less consensus: Rose found the suggestion inapplicable because some students do not produce real reflections, and Alice decided that the suggestion need modification to be applicable. Justin and Mary both agreed with the suggestion.

In this chapter, the analysis and results of data collected through semi-structured interviews with tutor participants was explained. The chapter is meant to let the voices of the participants be heard. In the next chapter, both data sets of tutor participants and student participants are brought together in the discussion chapter to bring about a case for the thesis.

# CHAPTER 6: DISCUSSION

Research has highlighted the value of active social interaction within an online learning community and its potential to enhance learners' satisfaction and make the learning experience more 'enjoyable' (Biocca et al., 2003; Lowenthal, 2010). However, there is much to be explored regarding the social aspect of learning. The impact of social presence on higher learning outcomes is still questionable due to discrepancies in research findings (Lee,2014). Further, the question of how to incorporate "the social aspects of learning in both the design and instruction of online courses" is still in need of more investigation (Richardson & Swan, 2003, p.81). There is a widespread belief that it is a challenge to achieve active social presence in online learning contexts (Bejerano, 2008; Robinson, 2013). Online learners often report negative feelings such as isolation and frustration (Plante & Asselin, 2014). Moreover, the effectiveness of the new trend in online learning to provide "outcomes-based and personalized learning experiences" can be questioned due to the scarcity of empirical research in the learning design field (Dobozy, 2013, p:65).

This thesis raises questions about the value that effective social presence can add to learning outcomes, and more precisely deeper learning outcomes such as metacognition. Further, this research project seeks answers for practical learning design questions about the best settings and practices that would enhance deeper learning outcomes.

According to Biocca et al (2003) there is a need for a robust theory of social presence, and an agreed way of measuring it. The work of Goffman (1995) might provide some bases for such a theory. Despite belonging to an era that predates online learning, Goffman's insights into the presentation of self are helpful in clarifying some aspects of the construction of social presence. More precisely, the way Goffman's framework interprets social interaction in terms of 'protecting face' and 'identity performance' has the potential to explain interaction in online

forums and the social presence of the members of the 'Community of Inquiry' as referred to by Garrison et al. (2000).

The results of the analysis process which were explained in the previous two chapters led to further analysis which resulted in some meta-themes. Within each meta-theme a set of related themes are grouped and discussed in an attempt to find divergences and convergences within the two data sets collected in this study. In the following, the findings and a discussion of each are organized according to the meta-themes that were later identified:

## 6.1. Findings within the Meta-Theme: Socially Shared Learning

- **The social interaction on the programme did appear to result in perceptions of social presence, in varying degrees.**

There are indications in the words of both student and tutor participants that the online learning community enjoyed a level of active social interaction that allowed some tutors and students to gauge the personalities of certain members. For instance, one of the tutors (Rose) found the personality of a certain student to be "aggressive" and Bella, one of the participant students, saw her colleague as being "very brilliant" and a source of guidance for her so that she "learned a lot from him". Further, some student participants (Lisa, Adam) confirmed that they developed friendships with peers in the online learning context.

Such indications support Walther's Social Information Processing Theory that acknowledges the cues that Computer Mediated Communication [CMC] can offer for social interaction (Lowenthal, 2010). In other words, the computer-mediated communication

channels can be effective in presenting people's personalities. People can be seen as 'real people' although they are in CMC. Social presence can be perceived by the members of the learning community through their social interaction.

Referring to the definitions of social presence, it is possible to decide whether the social interaction experienced by the participants in their learning communities reflects effective social presence or not. The definition adopted by Biocca et al. (2003) was that social presence is "the sense of being together with another" (p. 459). Developing friendships, learning from others, and gauging their personalities in the online context are valid indications of the 'sense of being together with another'. According to the COI framework, social presence is defined as "… the ability of participants to identify with the group or course of study, communicate purposefully in a trusting environment, and develop personal and affective relationships progressively by way of projecting their individual personalities" (Garrison, 2012, p. 252). Using Garrison's (2012) terms, some participants communicated purposefully as they sought to develop relationships with 'study pals' (Lisa) and some of them 'identified with the group' when they appreciated the time when they developed 'personal and affective relationships' with their first cohort (Adam). Nonetheless, the level of satisfaction of the members of the online learning community with the level of social interaction experienced and the activity of the social presence is to be discussed next.

- **The level of social interaction, and hence social presence, experienced within the learning community was not consistently satisfactory for many students and tutors.**

The level of social interaction achieved in the learning community was neither satisfactory for student participants nor for tutor participants. In general, both student and tutor participants echoed the findings of previous research (Plante and Asselin, 2014; Cunningham, 2015) as they communicated the need to improve social interaction and some of

them complained about the negative impact of the lack of social interaction at certain instances; some student participants expressed feelings of isolation (Adam, Lisa, Meg), or that they missed the active interaction they enjoyed with a previous cohort (Adam).

Tutor participants more openly regretted that the design of the programme did not support social presence enough (Rose), or that more could be done in regards to activating social presence (Justin, Alice). Both Justin and Rose emphasized immediacy as an aid to active social presence, and how the lack of immediacy was negatively impacting the achievement of an active social presence. Moreover, Alice argued that the design of the programme did not nurture a friendly informal atmosphere because members of the learning community were not encouraged to share private data about themselves such as birthdays or other personal details.

Alice's argument is further supported by some student participants' description of the learning activities that allowed for more socially active environments. For example, Sandra, a student participant, thought that the learning team/small group activities nurtured more sociable interactions among learners because they were not too "structured" which allowed learners to interact "more comfortably".

Interestingly, the identification of learning activities that supported better learning dynamics was approached by tutor participants differently from student participants. Although both parties agreed that the success of small group activities was greatly dependent on the personalities of students in the groups, different aspects of the process were tackled by each group. Student participants talked about the more flexible structure when compared to whole group activities (Sandra), the higher potential for getting to know one another and socializing with peers (Meg). Also student participants complained about the instances in which they experienced lack of participation from other team members (Jane, Lisa, Meg). Tutor participants talked about the higher potentials for minimum contributions by students (Rose &

Alice) and the smaller likelihood of being in a team where common interests are shared because of the small number of members in each team when compared to whole group activities (Rose).

In general, student participants talked about positive and negative experiences with small group activities, while tutor participants discussed the reasons behind the experiences of their students. Nonetheless, both student and tutor participants discussed the need for immediacy and for less structured learning spaces that allow some informal communications. In general, the views of tutor and student participants align with the findings of Plante and Asselin (2014) as they suggested sharing personal photos or video introductions to support social presence.

They also agree with the findings of Swan (2002) which suggested "an equilibrium model of social presence in online discussion", as participants demand less structured learning spaces maybe to use "more verbal immediacy behaviors to support interaction" to make up for the lack of "affective communications channels" (p.23).

Such demands by both parties (tutor and student participants) can be explained through Goffman's insight about daily human interaction where people are expected to check on the more controllable behaviors through the less controllable behaviors or responses. In other words, people need to see some immediate responses because they believe such responses are less likely to be manipulated. People prefer to communicate through less structured learning spaces because they believe they can see more 'authentic' aspects of others, and that is what makes such communications nurture effective social interactions, or as Sandra, a student participant, described it, people communicate "more comfortably" in less structured learning spaces.

- **Generally, members of the online learning community appreciate the role of social interaction in supporting deeper learning.**

This research project goes beyond suggesting that effective social presence makes the online learning experience more enjoyable, to suggest that effective social presence is important for learning, and in certain instances it supports deeper learning. Considering what some learner participants discussed about the relationships they perceived to exist between learning and effective social interaction in the online community might provide some insight. Adam emphasized the role of effective social interaction in attaining learning outcomes when he compared the modules in which he enjoyed a satisfactory level of social interaction and the modules where the social interaction was not satisfactory for him. Adam stated that he could not remember anything about the latter ones, whereas he retained knowledge from the former ones.

It is important to emphasize that the opportunities to construct social presence were not evenly appreciated by all participants. There were indications that learners' awareness of the value of social interaction to learning varied quite a lot. For some learners, social interaction was considered important to achieve learning outcomes and because of that they devoted some effort to develop their social community within the learning community (Jane, Lisa). Lisa articulately expressed her appreciation of the role of the 'social learning' processes in scrutinizing our thoughts and ideas as learners:

> sometimes we hang on to ways of doing things because we've done that thing before and it feels comfortable and... occasionally it would take a team to say... NO we won't do it this way, let's do it in another way. (Lisa)

Those words by Lisa seem to sum up the whole thing. They reflect the deeper beliefs of learners about learning with and/or from others. They show that at least some learners are

aware of the value of having conflict in a learning community. Our old ways and ideas are subject to scrutiny when we are members of a 'Community of Inquiry'. This process of reconsidering learners' systems of beliefs is enhanced through teamwork. In a broader sense, Lisa's words show that she is aware of the value of social interaction for deeper learning outcomes. Such awareness might be a step towards social metacognition (Garrison & Akyol, 2013; 2015).

Nonetheless, there were those student participants who could not see much value, in terms of learning outcomes, of learning in a social context. In a particular case, Nora decided that the social interaction that occurs in the online learning space is "just a support" and underestimated the value of discussions; "what is in between is just a discussion of thoughts and a discussion on what others are thinking or what they're saying". Jane, on the other hand, represents a case of fluctuation between valuing learning in a social context and showing skepticism about it. Jane was worried that the learner would not put forward her/his genuine ideas if the interaction with others' ideas occurred before submitting the learning task, "but I wonder if people would kind of be swayed…". Jane's words reflect her belief that others can contribute to change or 'sway' our ideas and thoughts, however, she does not seem to show appreciation of this change with her use of the term "swayed" which might be considered to have a negative inflection.

Despite the previous views, data analysis supports the claim that learners, in general, prefer more socially active learning settings in which they would expect more feedback from peers as well as tutors on their thoughts, academic production, and learning progress. The same cannot be said about their contribution to providing feedback for others through the social interaction of the learning community. Looking at social interaction as a means for learning from the perspective of the socially 'less active' learners might provide some insight. The fluctuating feelings towards social interaction as a means for learning can be understood through Goffman's (1990) conception of identity performance which will be discussed next.

- **Learners need to maintain a balance between effective social interaction (performing identity) and privacy (access to backstage area).**

Some student participants communicated hesitation about posting something they were not sure of. They could not 'risk' posting unfinished ideas. Using some of the terms of Goffman (1990), they were too worried of performing their identity in a way that threatened 'face'. Goffman's insights about the need for individuals to maintain 'face' can shed light on student participants' views of the social learning process. Lilly's description of her approach to learning illustrates this:

> interaction for me is two things; one interaction I read and… according to the requirements I respond to them … either giving feedback or comment or…… but the other thing, just reading and reflection, compare the writing [by] myself… that [is] also another interaction… that part may not be known by any one… maybe only me. (Lilly)

Lilly is a good example of what might be considered as a learner who is doing the 'minimum' according to Alice, a tutor participant, simply because Lilly is a reflective learner who is not much of a 'risk taker' according to Rose (another tutor participant). Using Rose's terms, Lilly is a 'reflective' learner who posts what she thinks 'is safe'. This can be looked at through the lens of Goffman (1972, p. 12) as a technique for "face-work". Lilly's approach to 'protect face' is to submit what she thinks is 'safe'. On the other hand, when she thinks that her participation might 'threaten face' she would retreat to her "backstage area" (Goffman, 1990, p. 115) where she would do her reflections and comparisons alone.

Another student participant, Lisa, tackled this issue as she decided that she would rather discuss her "ignorance" with one or two peers whom she 'knows' and 'trusts' rather than with everybody in the learning forum. In other words, Lisa's “face-saving practices” (Goffman, 1972, p. 13) is to limit exposing her learning weaknesses to the few peers she trusts, otherwise she would need her backstage area. Jane, another student participant, provided more insight regarding the fluctuation between being socially active and retreating to backstage. Although Jane liked the learning design for being "motivating and engaging", she decided that she preferred online settings more than face-to-face settings because sometimes she finds it easier to “convey a more intelligent response in writing than… than face-to-face-interaction" because it is “hard to just think in depth and be reflective at the moment…”. In other words, she needed to retreat to her backstage area, to think, reflect, and then to come up with an intelligent response that saves face.

The words of Lilly, Lisa, and Jane resonate with the findings of the literature review by Plante and Asselin (2014) who confirmed that online learners reported “fearing they may have posted something incorrect" (p.220). It seems that much of the fluctuation between active participation by students and lack of participation can be attributed to this tendency to 'defend one’s face' and the need to have a 'backstage area' (Goffman, 1990). In online contexts, the need for a backstage area can easily be satisfied if students are not pushed too much to share and participate.

However, the need for such “defensive practices” (Goffman, 1990, p. 24) can increase if students are not allowed to construct their social presence in ways that support developing trust among members of the learning community. This aligns with the demands of some student participants to keep their learning logs as private writings not to be shared with other learners, although according to the design of the programme they are supposed to share them with certain tutors. This should give learning designers of online contexts a sense of the conditions necessary for successful active learning dynamics; the learning design should not

push people too hard to participate and share ideas, rather the design should nurture developing trust among members of the learning community. There are times when people need access to their backstage area, and this will be more frequent if trust is not built within the learning community.

## 6.2. Findings within the Meta-Theme: Awareness of Learning and Deeper Learning Outcomes/ Metacognition

- **Online learning contexts can lead to higher order learning outcomes/metacognition such as awareness of own learning, and sometimes awareness of the learning of others.**

Awareness of learning is a primary step in the metacognitive experience. According to Garrison and Akyol (2013; 2015) the three elements of metacognition are: Knowledge of Cognition, Monitoring of Cognition, and Regulation of Cognition. In a previous study Akyol and Garrison (2011) argued that "Knowledge of cognition refers to awareness of self as a learner in a broad sense" (p.184). Both monitoring of cognition and regulation of cognition are more advanced elements of metacognition when compared to knowledge of cognition. While monitoring of cognition entails assessing "task, understanding, and progress of the inquiry process" or "reflection on action", regulation of cognition entails a set of controlling strategies such as "setting goals, questioning, and evaluating the inquiry process" or it is "reflection in action" (Akyol & Garrison, 2011, p.184). Nonetheless, the socially shared aspect of the metacognitive process is yet more advanced as it relates to capabilities of awareness of the cognition of others and being able to contribute to regulating and monitoring their cognition.

On many occasions, during the semi-structured interviews, student participants provided evidence of awareness of their own cognition. In general, student participants

provided evidence of the occurrence of varied levels of individual metacognition. For example, both Franc and Lisa not only pointed out the weaknesses in their learning outcomes, but also provided an analysis of their approaches to learning when dealing with such weaknesses. Franc realized that he tended to include too many details when dealing with a new concept that he could not master. Further, he gave an explanation/or analysis of his approach:

> because you have less confidence in what you're presenting, that you want to include everything, aaah.., and… that may not be the best way to do it. (Franc)

Lisa also mentioned how she would discuss her "ignorance" with only one or two colleagues whom she trusted. Again, Lisa expressed her awareness of the weaknesses in her learning and her approach to monitoring her learning through discussions with a few others. Bella, on the other hand, described an advanced level of awareness of own learning (individual metacognition) that was reinforced through interaction with another peer (socially shared metacognition).

Other student participants also showed levels of awareness of their cognition in different contexts. For example, as Zak discussed the difficulties he encountered to meet the requirements of the stressful modules, he also pointed out that he was so proud of how much he achieved in terms of learning outcomes. Actually, all student participants communicated a similar experience to Zak, either directly or indirectly. According to the data collected from student participants, awareness of own cognition as a level of individual metacognition was often communicated. Nonetheless incidences of socially shared metacognition were not of the same frequency, which is to be discussed in the next paragraph.

- **Online learning contexts can harness socially shared metacognition, although it is less frequent in this case study when compared to individual metacognition**

It was the premise of this thesis that tutor participants who look at the online learning experience from a different holistic view than students could provide unique insights into socially shared metacognition. Nonetheless, some student participants provided glimpses of socially shared metacognition at specific instances. However, while there were some indicators of awareness of the learning of others, examples of students contributing to monitoring the learning of others was less evidenced. This might be sensed in Bella's experience with a peer who provided advice on how to tackle her weakness in her approach to learning by working with somebody who is good in a “straight line”. Interestingly, Bella's colleague showed awareness of her learning/cognition and contributed to the monitoring of her cognition by offering advice and guidance to her.

Another interesting case was that of Franc as he recognized the "minimalistic" approach of another colleague to developing concept maps. Franc developed the belief that producing minimalistic concept maps reflected more confidence in learning. In other words, Franc expressed awareness of the cognition of his colleague in addition to awareness of his own cognition and approach to learning, and monitored his own learning or cognition. Moreover, Franc's colleague contributed to the change in Franc's approach to learning (Garrison & Akyol, 2013; 2015), more precisely to Franc’s approach to developing concept maps.

In a very interesting discussion of the social interaction and its contribution to learning, Adam, a student participant, made an interesting connection between retaining cognition and effective social interaction. Adam referred to his previous cohort where he developed friendships and enjoyed an advanced level of retention of cognition, then he compared this to the situation where he had poor social interaction in later modules and poor level of cognitive retention. By this, Adam showed awareness of the role of others in monitoring learning and making it better retained, again providing a glimpse of socially shared metacognition.

Adam further provided a suggestion about grouping people of similar interests together to aid their learning. It is worthwhile emphasizing that in the incidences discussed above, interactions were between two learners and reflections led to reconsidering learning approaches of individual learners rather than a group of learners as described in Garrison and Akyol (2013; 2015). None of the student participants communicated an incidence in which a whole group of learners interacted to provide a change in the learning approach. It was of great value, however, that some learner participants showed awareness of the value of teamwork in a way that reflected socially shared metacognition. Lisa, a student participant, summed up this idea where she argued that it sometimes took a team to push people out of their comfort zones and suggest a new way of doing things.

Lisa's statements reflected her deep feelings as a learner towards learning with and/ or from others. They show that, at least, some learners are aware that our old ways and ideas are more likely subject to scrutiny when we are members of a 'community of inquiry'. This process of reconsidering learners' systems of beliefs is enhanced through teamwork according to Lisa's view. A glimpse of this can be heard through the words of other learner participants: Jane for instance described the change in learners' posts to the discussion board during the week. She described the posts at the beginning of the week to be "very general" and towards the end of the week to "focus on very specific components…" to conclude that this change is attributed to the "discussion that [we] had" (Jane).

Meg, another student participant, showed a different level of awareness of the value of socially shared metacognition and discussed how she monitored her cognition to make up for the lack of socially shared metacognition. Meg argued that she needed to deepen her learning through intellectual discussion with others as she stated: "being engaged in dialogue with others is important for me and my learning process". However, because such dialogues were

scarce she compensated by doing more individual study effort. Her reaction seemed to display 'monitoring of cognition'.

Tutor participants tended to communicate that more could be done in the way of achieving metacognitive outcomes. Three of the four tutor participants identified the learning log and the reflective assignment at the end of each module as the activities that contributed most to metacognition. Bearing in mind that both activities are individual activities, this indicates that socially shared metacognition is poorly supported in the programme. Nonetheless, one tutor participant, Rose, reported observing the interaction of a small group of learners through the modules and how they extended the learning of one another:

> … I can think of three students in particular; they've always pushed each other boundaries. They're always pushing up… they're saying to really explore the top… and they did it consistently from module to module. (Rose)

Despite the existence of some evidence of socially shared metacognition, it was not widespread among student participants. Further, the evidence came in the form of hints within the words of a few participant students. The steps for social metacognition as identified by Garrison and Akyol (2013) were not much encountered in the words of participants. For example, there were no strong indications of certain posts by peers that suggested a change in the approach to learning or to approaching a learning task that were noticed and elaborated by peers within the learning forum. Neither could tutor participants identify particular incidences of such occurrences. Bearing in mind that deep aspects of learning are too sophisticated to be easily identified, and that the research approach invited participants to reflect on the learning process afterwards, it can only be concluded here that there was limited evidence of the occurrence of socially shared metacognition using the data collected in this thesis research.

Some participants showed awareness of the value that socially active learning contexts can add to learning. Adam, a student participant, represents a good example as he made a connection between socially active learning contexts and retention of learning outcomes. More about relational findings are discussed next.

- **Relationship between social presence and learning outcomes**

Both student and tutor participants suggested relations between the factors at play in the online learning contexts. Some of these relations echo the findings of previous research about the impact of effective social presence (Richardson & Swan, 2003; Cobb, 2011; Lee, 2014).

Mainly, there were implications regarding the impact of social interaction among learners and tutors on the learning process. At certain instances this impact was sensed as student and tutor participants expressed their feelings towards the online doctoral programme. On other occasions, participants talked directly about their learning or tutoring experience and made connections between varied components of the learning process.

Adam, a student participant, argued for a connection between high cognition retention and effective social presence. Adam assured me that he could remember the learning outcomes of the modules in which he enjoyed much social interaction with his peers in the online spaces, however in the modules where he was deprived of effective social interaction - when he moved to another cohort - he could not remember what were the learning outcomes or even what the modules were about. Lisa, another student participant decided that “sparks”

occur during one-to-one social interactions. Lisa used the word ‘sparks’ to refer to the moments where learners experience change or transformations.

With tutor participants, the arguments about connections or relations between effective social interaction and aspects of the learning process were even clearer. Tutor participants agreed on the positive value of effective social interactions on deep learning. For Rose, social interaction is needed to demonstrate deep learning. For Mary and Alice, socially active learning contexts provide opportunities for learners to develop deeper learning outcomes. Justin, on the other hand, was more specific as he identified the “social cognitive conflict” as the real motivation for learners to reflect on their views and thoughts and wonder if they should “consider other ways of thinking about tasks… about to use different strategies… cognitive strategies”.

In addition to the relations between the effective social interaction and the possibilities of achieving deep learning outcomes such as metacognition, there were indications of positive relations between giving learners more control over their learning and deep learning, and active teaching presence and opportunities for deep learning (Alice).

## 6.3. Findings within the Meta-Theme: Social Presence and Performance of Identity, Theoretical and Practical Insights

- **Identity performance is key to understanding social presence and the learning dynamics in the online learning context.**

Social presence is still an ambiguous concept since there is lack of consensus about its definition in the literature as was discussed in the literature review chapter. It is one of the

ambitions of this thesis research to contribute to the theoretical propositions of the concepts encountered in the CoI. The data collected in this research project seem to suggest that social presence in online learning contexts has two aspects: first, how a person is perceived by others in the online forum; and second, how a person performs her/his identity and interacts with others or responds to their performance of their identities. Examples of the former are when Rose, a participant tutor, described one of the students as being “aggressive”, or when Bella, a student participant, described one of her colleagues as being “very brilliant”. Examples of the latter are when Lilly provided a description of her interaction with the other posts either by sending back a response to the forum or by reading it later on and interacting with it internally in a way that others might not know about.

Another example of identity performance is that of Lisa when she said that she prefers to expose her ignorance to a person whom she knows and trusts rather than to the whole class, and when Adam, another student participant, provided guidance for peers about technological aspects of the online learning experience. Identity performance seems to play a vital role in the learning process. Identity performance is a result of social interaction (Jaber & Kennedy, 2017). Indeed, it is through social interaction that Adam performed his identity as a technology expert, and it is through social interaction that Lisa decided to trust one or two colleagues to expose her ignorance to.

The insights of Goffman (1959) about identity performance can provide clarifications regarding how people tend to interact even in online contexts. Mainly, why do people in online contexts value opportunities for synchronous interactions, or immediate responses, and face-to face interactions? Following Goffman (1959), people tend to believe that the instant responses, and the nonverbal cues are more trustworthy and less likely to be manipulated, hence, they are needed to get to know the ‘truth’ about others, and whether they are trustworthy. Missing instant responses and nonverbal cues means missing “expressions given off” which are more trustworthy, and being restricted to “expressions given” which are more likely to be

manipulated (Goffman, 1959, p.16). The impact of the scarcity of nonverbal cues and immediacy could be sensed through the data collected for this study.

It might be because of this that Lisa, a student participant, wanted to hide her ignorance from her online peers and chose to expose it only for the few peers she trusted. Recalling that Lisa was a successful professional, just like many other online learners, she needed 'to keep face', (Goffman, 1959), by showing confidence to the online class whom she did not know well enough to have developed trust. The aspect that she can see of them is the aspect that was well prepared, not spontaneous, the aspect where they worked hard to "convey a more intelligent answer" using Jane's words. It might be the lack of instant responses that made Lilly prefer to react to some posts internally, or avoid being a "risk taker" using Rose's terms, simply because lacking instant responses made her incapable of developing trust with her learning community.

Further, it might be seeking the instant responses that made participants value synchronous learning activities such that some of them would wake up at odd hours to contribute to such activities (Meg), or would contribute to all available synchronous activities (Bella). It seems that the way learners perform their identities and perceive the identities of others is the outcome of social interaction. Further effective social presence that is needed to develop trust needs to be facilitated in environments that include some spontaneous social interactions and that compensate for the lack of nonverbal cues.

In more than one instance, student participants conveyed that they were seeking to be recognized in terms of their learning identities. The awareness of learning and the awareness of capabilities as learners that the participant learners conveyed were results of how the participant learners identified themselves as learners such as being "of agreeing nature" (Lilly), or being "useful" because of her capability to "tie lots of different thoughts together" (Bella), or

capable in learning technology (Adam). The student participants' awareness of their identities as learners made them seek others whom they could identify with in the online class. For instance, Bella was seeking another learner who was good in a "straight line" in terms of their thinking approach, Adam regretted the lack of learners who had similar interests, and Lisa who found it threatening to expose her ignorance with the class consistently sought a study pal to share her insecurity with.

Identity performance and the environment that is needed to support it can provide guidance to online learning designers in their pursuit of more engaging learning contexts that aspire to achieve deeper learning outcomes. More about this is to be discussed in the next section.

- **Deeper learning outcomes can be enhanced if certain factors are controlled in the learning design**

Although three of the four tutor participants attributed the success of the learning dynamics, in part, to the personality of learners rather than the learning design, there was a level of agreement among tutor participants that the learning design can be enhanced to improve the learning dynamics.

In this regard, each of the tutor participants described a specific aspect of the learning design that could be improved. Mary talked about assessment and that learners would normally do what counts as assessment and would ignore what is not assessed. Justin suggested putting more emphasis on the "intimacy" and spontaneity of the learning design. Rose argued elaborately for including communication spaces that allowed instant easily structured communication. Alice expressed her concern that time, as a vital factor in the

reflective process that aids deep learning, is not dealt with properly in the current learning design, and should be reconsidered in any attempt for improvement.

Student participants, on the other hand, emphasized social presence whether for tutors -"… suddenly he became a human" (Lisa is describing her feelings when a tutor shared something about his social life)- or for students, as was sought by Adam who missed the active social presence of his first cohort to the extent that made him unable to attain the learning required in the later modules. Changes in the learning design such that opportunities for cognitive and social interaction are more incorporated in the programme were welcomed by participants in general. Mainly, there was a high level of agreement, seven out of ten student participants and two out of four tutor participants, on the suggestion of submitting the main post at the end of the discussion week. This suggestion is in alignment with Laurillard (2009; 2012) where she argues for facilitating the repetition of practice after receiving feedback from tutor and peers. In general, participants acknowledged the opportunity to be exposed to varied perspectives and valued the social aspect of learning. This acknowledgment was further emphasized as student participants made connections between learning and communicating "if nobody is really communicating and talking then… nobody will be learning anything" (Sandra), or clearing misconceptions and engaging in discussions with peers (Lisa). Moreover, some participants explained that better main posts could be developed after being exposed to varied perspectives from peers and tutor in comparison to being developed at the beginning of the learning week (Jane). Some participants were very direct at criticizing the learning design of the programme for not supporting the validation of ideas that emerged out of reflection "through group dialogue" (Lisa). Justin, a tutor participant, identified a learning activity as supportive of metacognition where a "a new summary, a new team summary" is developed after going through team discussions.

Including some synchronous activities was also welcomed despite the difficulty that might be encountered due to different time zones. Student participants' need for more genuine

opportunities to communicate socially made some of them ready to wake up early to attend synchronous activities (Bella, Meg, Sandra).

The stressful programme design was identified as an obstacle to deep learning outcomes by tutor participants who argued that reflection needs time (Alice) and student participants (Zac) who suggested allocating some time for more effective social presence. Tutor participants were clear in suggesting improvements to the learning design to make it more supportive of social presence such that it becomes less formal (Alice), allocates more time for reflection (Mary) and provides opportunities for spontaneous interactions (Rose; Justin). Those suggestions by tutors were meant to make metacognition more likely.

The suggestions of Rose and Justin align with the insights of Goffman, as including opportunities for spontaneous interactions allows the class and the tutor to interact with the less guarded responses of the others which develops trust and enhances feelings of security. They also resonate with the needs conveyed by student participants discussed in the previous section. Nonetheless, this should not interfere with the need for protecting the privacy of the members of the learning community or the need for the access to the backstage area as referred to by Goffman (1990).

The suggestions of Mary about allocating more time for reflection align with some aspects of the 'Conversational Framework' of Laurillard (2009). In the Conversational Framework learners are supposed to go through the "goal-action-feedback-reflection-adaptation-revision cycle" (Laurillard, 2009, p.14). Accordingly, learners need time to think of the learning task which is their goal, decide on the actions to be taken to accomplish the tasks and execute them, receive feedback from tutors and peers, reflect on their actions or their approaches to the learning task in light of the feedback they received, adapt their approaches accordingly, and repeat the exercise or practice using the new approaches. In each cycle,

learners should have opportunities to interact with their peers and tutors in a productive way. Reflections on the approaches provide more opportunities for reconsidering not only ideas and views, but also learning approaches.

In other words, the learning cycle suggested by the Conversational Framework supports metacognitive learning outcomes. If the learning task is approached through teamwork, which is also suggested by the Conversational Framework, socially shared metacognition is also nurtured. What seems to be missing in the learning design of the doctorate programme of this research study is the opportunity to repeat the practice after receiving feedback from peers and tutor and reflecting on it. The Conversational Framework might be the answer to Alice's concerns about the time needed for reflection, and it might be the recipe needed to cure the suspicious attitude towards the deep learning achieved in the online context of this research study (Mary).

As with all case study research, this case study has some limitations such as the small number of participants and its focus on a particular HEI within a specific context. However, the data collected can shed light on certain aspects of the new global trend of online learning. As will be explained in the next chapter, this case study can contribute to more understanding of the factors at play in online learning contexts, and how deeper learning outcomes can be supported within such contexts.

# CHATER 7: CONCLUSION

This chapter explains how the findings discussed in the discussion chapter relate to the questions of this research. Hence a discussion of the contribution of this research study to the literature is provided. Further, the chapter discusses the limitations of this research due to the methodology applied in the pursuit of answering the research questions. The chapter concludes with some recommendations for future research and for practitioners in the field of online education. The chapter will also provide an overview of the arguments developed in the thesis.

The aim of this research project has been to explore the relationships between social presence and the higher order learning outcomes in online learning settings. More precisely the two aspects of metacognition, individual and socially shared metacognition, have been the focus of this investigation of the impact of social presence in online learning.

What this research's findings reassured to me is that a new fresh perspective to metacognition is needed. In online learning settings, the learning context is completely different than face-to face contexts. The social aspect of the learning process, which contribute to the socially shared metacognition, is shaped according to different grounds. However, there are certain aspects related to human nature, and these are less impacted by the media through which interaction takes place. Some of these aspects can be found in the insights of Goffman discussed earlier in the literature review chapter, and these need to be considered in online learning designs. To be more specific, Goffman's insights are more related to the social aspect of online learning such as socially shared metacognition.

When some of the researchers who contributed to the Community of Inquiry embarked on a mission to develop a metacognitive construct within the framework of CoI they devoted a

considerable effort to the measurement of metacognition in online learning contexts (Akyol & Garrison, 2011; Garrison & Akyol, 2013; 2015). Their repeated attempts led them in each time to indications that the constructs they developed have some faults. In each attempt they would rearrange their metacognitive constructs and develop a quantitative tool to measure the newly developed constructs. However, the theoretical framework, the CoI, was not scrutinized in any of their attempts. Furthermore, they rejected the attempts of other researchers to introduce a new presence to the set of three presences forming the CoI. The history of development of sciences provides many incidences at which researchers could make breakthroughs only when they loosen their grip of the theoretical backgrounds they used to adopt. It might be that with online learning a more theoretically flexible approach is needed, so that researchers could see other aspects of the phenomenon and develop a theoretical framework that takes a more comprehensive view to the learning process.

Learning is a sophisticated highly contextual process. While educators agree that it is not possible to put forward a learning formula that suits all learners, some guidelines for learning design are still needed (Conole & Wills, 2013). Some of these can be deduced from the findings of this research study and some indications of previous research. For instance, the insights of Goffman (1972) about the need for access to backstage area informs the necessity for flexibility in online learning design such that learners have time to reflect and reconsider their 'immature' ideas, then get back with 'smarter responses' in the discussion board. On the other hand, the insights of Goffman (1955, 1959) about face work suggest that to develop trust, learners need to know some of the instant, or the less controlled, responses of their peers. To solve this dilemma, a combination of both might be needed.

In the current scenario of the online program of this case study, learners would start their learning week by posting their main response to the discussion board. The rest of the week is spent in discussions with peers and tutor. Then the learning week ends, and a new theme is discussed in the next week while learners await the feedback and grade from their

tutors. This scenario puts more emphasis on the feedback from tutors and ignores the feedback from peers. Learners are not requested to put forward a new learning product that reflects their modified ideas about the theme they discussed with their peers. Actually, the end of the learning week comes as an imposed halt to the creation of new knowledge. So, what is needed to treat this while considering the insights of Goffman?

Just as Laurillard recommended in her Conversational Framework, learners need to discuss ideas, receive feedback from their peers and tutors, reconsider their ideas, and then have a chance to repeat the practice in light of feedback. To put this into action in the online learning dynamic, the refined scenario should include some opportunities for instance responses, to develop trust through discussions with the learning community, and opportunities for learners to reflect, maybe in their backstage areas, and then resubmit their learning product.

Resubmission of the learning product emphasize the role of social interaction. Engaging in discussions in the learning community becomes more meaningful when learners are requested to submit a modified version of their responses after going through the discussions. One of the drawbacks of this modified scenario is time, a single week is too short for practice, discussions to receive feedback, reflection on feedback, and repeating practice. It might be that two weeks are needed for each theme. More about theoretical and practical insights are discussed in the attempts to answer the research questions explained in the next section and in the recommendations section.

## 7.1. Contributions to Research

The contributions of this research project to the literature are classified here according to its main questions. Here each main question is related to a conclusion, and the sub-questions related to it are discussed within the same conclusion. Answers to the sub-questions contribute to answering the main question, hence lead to the conclusion.

### 7.1.1 Research main question 1

**How is social presence related to individual and shared metacognition in online learning contexts?**

There are three sub-questions related to this main question. The first is about the effectiveness of social presence in the learning community of this case study. The second is about metacognitive learning outcomes and indications of them. The third is about the relation between social presence and metacognition.

In order to explain the conclusions related to the first sub-question, it might be of value to remind the reader of the definition of social presence adopted in this thesis. It has been clarified in the literature review that there is a lack of consensus on the definition of social presence (Lowenthal & Snelson, 2017). Hence, the thesis adopted a level of flexibility in defining social presence to allow for deeper insights into the theme and for the potential to contribute to the theoretical clarification of it.

Social presence has been referred to in this thesis project as the 'sense of being together with another', or being salient as a human being within the online learning community. According to these definitions, the findings support the view that there was a level

of social presence effective enough to help the members of the learning community to gauge the personalities of other members, develop human relationships with them, and develop feelings towards interacting with them. This supports the arguments of some of the early theoreticians of the social presence theory who believed that computer mediated communications have the potential to provide cues that are not available through face-to-face communication, and that can compensate for the absence of visual cues (Lowenthal, 2010).

On the other hand, the findings support the view that the overall level of social presence experienced was not satisfactory neither from the perspective of students, nor from the perspective of tutors. Further the findings support the view that both students and tutors, in general, acknowledge the role of effective social presence in learning, however, to varied levels. This might provide an explanation of the findings of previous research suggesting that learners in online contexts tend to compensate for the lack of face-to-face interaction in an attempt to achieve more effective social presence (Swan, 2002). The argument that this thesis supports is that such a tendency might arise from the acknowledgement of the members of the learning community of the role of social presence in developing learning.

There have been findings regarding the challenges against more active social interaction, and of the recurring challenges were the lack of opportunities for face-to-face interactions, and synchronous interactions. Such findings add to the piling critiques of online learning settings as lacking the subtle nonverbal cues necessary to develop trust (Rourke & Kanuka, 2009; Plante & Asselin; 2014; Cunningham, 2015). They further highlight the need for some immediacy in the learning design. This seems to be another clue to the value of effective social presence to learning.

Turning to the second sub-question, the findings suggest that some levels of metacognitive outcomes were evident. Most student participants showed clear evidence of

their metacognition as individuals, in the form of awareness of cognition, sometimes monitoring of cognition and at certain instances regulation of cognition. The findings of this research study support the view that online learners can show indications of their metacognition such as analyzing their learning (awareness of cognition), and their learning approaches (monitoring of cognition). Further, some of them discussed how they changed their learning approaches (regulation of cognition). Tutors as well described the change in their students' approaches to learning. All of these are indications of metacognition when referring to the definition developed by Garrison and Akyol (2013; 2015).

Socially shared metacognition, as reflected in attempting to contribute to the monitoring and regulation of the learning of others, was less evident. However, there were indications that some learners changed their learning approaches as a result of their social interaction with others. This was mentioned by some students and confirmed by tutor participants. The existence of indications of socially shared metacognition provide a basis to the claim that online learning settings have the potential to produce deep learning outcomes if social presence is supported in the learning design.

Learners' awareness of their learning, the factors that promote their capability to learn, and how to regulate such factors by adopting new approaches to learning relate to learners' metacognitive skills (Garrison & Akyol, 2013; 2015). More precisely, they relate to their individual metacognitive skills. Nonetheless, it should be expected that learners' capabilities to develop such skills are varied. It might be that the varied levels of acknowledgement of social presence as an effective factor in promoting learning reflect the varied levels of the learners' metacognitive skills.

This should lead the way to the third sub-question about the relationship between social presence and metacognition; the findings support the view that members of the online learning

community believe there is a role for social presence in supporting metacognition. In a straightforward indication of the positive role of social interaction in supporting metacognitive skills, some student participants argued that it “takes a team” to give up a learning approach and adopt a new one in order to accomplish a learning task (Lisa).

In addition to the positive feelings that develop when effective social presence is experienced, both student and tutor participants provided indications of positive relationships between social presence on the one hand, and attainment of cognition, development of metacognitive skills such as awareness of cognition and regulation of cognition through adopting new approaches to learning on the other hand. Generally speaking, it was a belief shared by tutors and most student participants that effective social presence promotes deep learning, mainly metacognition. There were other findings regarding achieving metacognitive skills that relate to the learning design, hence will be discussed in the section about learning design.

### 7.1.2. Research main question 2:

- **What theoretical insights can be gained about social presence and its role in supporting metacognition in online learning contexts?**

There are two issues that need to be explained here. First, as was mentioned earlier, the definition of social presence lacks consensus. Theoretical reconsideration of the definition of social presence was recommended by many researchers (Biocca et al., 2003; Lowenthal & Snelson, 2017). Second, the concept of metacognition was used by some of the developers of the Community of Inquiry to seek evidence of deep learning in online contexts. Nonetheless, when exploring metacognition in online settings, a need for exploring the social aspect of metacognition arose (Garrison & Akyol, 2015). Hence metacognition and how it is impacted by

social presence needed further theorizing. In this thesis project attempts were made to provide some theoretical insights for both issues.

As for the first, the findings of this thesis suggest a definition of social presence that takes into account two aspects of the concept: first, how a person is perceived by others in the online forum; and second, how a person performs their identity and interacts with the others or responds to their performance of their identities. Not only do the definitions of social presence need reconsidering, but so do the indicators which are used to measure social presence. The indications need to be linked to each aspect of social presence. Measuring social presence by counting the number of times members of the online community use greetings or express humorous replies as used by some of the previous researchers oversimplify a complicated concept – see Swan (2002).

The findings explored in this research study suggest that indications of the image each individual forms about others as humans and indications of how an individual reacts – or performs identity - when responding to others through social interactions should count when measuring social presence. Such aspects of social presence should lead us to the second issue.

A metacognitive construct was introduced to the Community of Inquiry to explore deeper learning outcomes in online contexts (Garrison & Akyol, 2013). Later on, the social aspect of metacognition was considered crucial to exploring metacognitive outcomes (Garrison & Akyol, 2015). One of the motivations behind this thesis project was to inspect a relationship between social presence and metacognition. The findings suggest that most of the participants in this case study believe deeper learning outcomes such as metacognition are better supported in online settings that enjoy effective social presence. They showed that they needed to trust others in the online learning spaces in order to expose their immature ideas to them, to expose their cognitive weaknesses to them or to engage deeply with them. It is within such

trusting environments that immature ideas can evolve and be elaborated in a metacognitive way. How people perform their identities, and how they want their identities, and mainly their learning identities, to be perceived by others, should be considered in any attempt to theorize the role of social presence in the development of metacognitive outcomes.

A tempting conclusion for this section might be to restate one of the findings: identity performance is key to understanding social presence and the learning dynamics in the online learning context.

### 7.1.3. Research main question 3:

**What practical guidelines should be considered when designing online learning environments?**

Two sub-questions emerged out of this main question: the first is related to the improvement of the learning design to harness social presence, and the second is to make it harness both aspects of metacognition. As for the first, the findings indicate that a balance should be sought between pushing learners to interact and perform their identities, and protecting their privacy by allowing access to what Goffman (1957) refers to as 'backstage area'. One of the benefits of online learning is that learners can choose the time to appear and interact. This is what asynchronous learning design is all about. It also allows learners to revise their responses to convey smarter answers.

Nonetheless, this means that their peers do not have access to their immediate responses. According to Goffman (1957) people need to check the credibility of what others say by comparing these to their less controlled reactions. Usually, less controlled reactions are the

spontaneous ones. Although Goffman (1957) put more emphasis on the nonverbal reactions, spontaneous verbal reactions are also valuable for checking the credibility of others. This might explain the need that was expressed by many participants to have some synchronous activities, and the negative feelings that developed when individuals in the online learning settings experienced lack of social interactions.

However, learners should not be pushed to spontaneous interactions too often. Not only because spontaneous interactions put strains on online students and deprive them of the flexibility of the learning programme, but also because online learners need to protect their privacy. Online learners need to go to their sanctuaries and revise their responses, think smarter and convey more intelligent answers. When online learners feel insecure because their 'ignorance' or their 'lack of confidence' might be exposed, they need to have access to their 'backstage area' (Goffman, 1957). The necessity of allowing for interactions that make the 'less guarded moments' salient (Goffman, 1959) should not lead to feelings of insecurity by threatening access to backstage area.

The findings support the view that less guarded interactions, in which the spontaneous reactions of each individual can be sensed by others, are crucial for the development of trust and intimacy in the learning community. However, this should not invade the privacy of each individual. The learning design should carefully maintain a balance between effective social presence and access to 'backstage area'.

As for the second sub-question, metacognition needs to be considered when planning the learning task as part of the online learning design. The effort of online designers should not be undermined. In the context of this case study learners were invited to reflect on their learning through the learning log. They were invited to provide critical feedback for peers and respond to their feedback. The result was achieving a level of metacognitive outcomes. The

socially shared metacognition was less evident, and the question that remains valid here is: what can be done to improve metacognition, and more precisely socially shared metacognition? This is to be discussed in the recommendations section below.

## 7.2. Recommendations and Implications

In this section two kinds of recommendations are discussed: practical recommendations that mainly address designers of online learning programmes, and recommendations for future research.

The findings of this thesis research imply that more attention should be paid to the way people interact online. Further, the findings suggest that investment in social presence when designing online learning spaces is a justified approach. However, designing online learning spaces is not an easy task. This research study recommends that the design of the online learning space puts more emphasis on social presence such that learning tasks are facilitated within a social context.

Moreover, this thesis argues that effective social presence is not an admirable addition to the learning experience, rather it is a necessity for deep learning. Student participants provided evidence that they reflected on their learning, reconsidered their approaches to learning, controlled their learning, and in some instances contributed to the learning of others and to their control on their learning, within social contexts. Further, generally, student and tutor participants showed much interest in improvements of the online learning that can make the social presence of the learning community more effective and the social presence of each individual more salient.

The implications discussed above led to the recommendations that online learning designs need to be reconsidered. This might be in agreement with previous research. Richardson and Swan (2003) for instance argued for a "better model for online courses" in which the emphasis is not only on providing information but also on incorporating "the social aspects of learning in both the design and instruction of online courses" (p.81). After all, the need for improvement and reform never ceases to be valid.

Nonetheless, what is needed is a more practical and precise recommendation for online learning design. An incorporation between theory and practical guidelines can provide something more applicable for online learning designers. The learning context of the case study of this thesis research was of an asynchronous text-based online programme in which the week is the unit of learning activities. The week starts by a question or a set of questions around a theme, and learners are expected to answer the questions through a main post submitted to the discussion board so that everybody engages in discussions about the ideas submitted by each member and about the ideas explained in the assigned readings. With the end of the week, the learning community moves to the next theme and set of questions.

If this scenario is analyzed using the lens of CoI, all three presences are there, cognitive presence through reading and responding to the questions by students, teaching presence though the role of the teacher who facilitates the discussion and provides feedback, and through the instructions given about the theme, the readings, and the learning activity. Social presence is also there through the interaction among the members of the learning community and how they respond to each other’s posts. Nonetheless, this might be insufficient to really scaffold deep learning, or as Lee (2014) revealed in her conclusion "active participation, interactions, and a learning community may not be enough for promoting higher-order thinking skills" (p.49).

According to Laurillard (2009), learners should benefit from opportunities to repeat practice after receiving feedback from peers and tutor. In the scenario of the case study at question in this research project, such opportunities are missing; learners are not encouraged to submit a more elaborate post at the end of discussion. At the end of the week, a new learning task begins where a new theme is discussed. In other words, whatever feedback the individual learner receives from tutor and peers through discussions is not used as a new input to elaborate ideas and provide a more intelligent answer to the questions of the learning task. Hence, the discussion with peers is not taken seriously as a means for learning. Getting back to Laila's day, the fictitious scenario at the introduction chapter, the precious moments when learners reflect in light of feedback from peers or tutor need to be captured. Further, they need to be captured in ways that allow learners to use them in new learning products. What is recommended here is that the learning design considers repetition of practice in the light of feedback. This way online learners would be more aware of their cognition, have more opportunities to reflect on their learning, reconsider their learning approaches, and seriously contribute and react to the learning of others.

Another recommendation regarding the learning design is to make the learning context more secure for the learners. As was argued by Kennedy and Gray (2016), online learners experience contrasting feelings which are in a dynamic mode that reflect the instability of affect. In such contexts developing trust is crucial to support social presence and facilitate deep learning. Effective social presence should result in the capability of people to express their immature ideas without feeling threatened by the judgements of others. This can be achieved if the members of the learning community get to know and trust one another. According to Goffman (1955; 1959) people need to have access to the less guarded responses of others to check their credibility in order to trust them. Hence, some immediacy learning activities are needed in the online learning design. Learners need to occasionally perform their identities in real time.

This can be achieved through some incorporation of synchronous and asynchronous learning activities as was recommended by previous researchers (Plante & Asselin, 2014), and as was voted for by most participants in this thesis research. Nonetheless, this should not violate the privacy of members of the learning community, nor should it take away the flexibility of the asynchronous online learning designs. This can be resolved by including two or three real-time learning activities at different timings within each course, and demanding that each student participate to at least one of them. Real-time learning activities can be in the form of live text-only discussions. Such immediacy behavior allows learners to "make their feelings visible" to the learning group members (Hurme et. al, 2009, p.520).

Another approach to develop trust can be through incorporating some audio or video discussions, presentations, or even group Skype sessions where learners share their reflections on their learning experiences. While real time texting satisfies the need for immediacy, incorporating audio or video provide the addition of allowing access to nonverbal cues which are trusted to check the credibility of others as immediacy behaviors (Goffman, 1955).

Another scenario might be facilitating some real time communication channel and demanding that some team tasks are to be accomplished through it, while it can be optional with other tasks. The immediacy achieved in such activities leaks unintended information for others and makes the learning environment more trustworthy when it comes to exposing ignorance, or less risky to discuss new ideas (Jaber & Kennedy, 2017). Immediacy is needed also to support teamwork, or group activities. It might be of value here to restate the recommendation of Robinson (2013) for online group workers; they should be encouraged to “adopt a range of verbal immediacy behaviors so that their peers can get to know and trust them" (p.306).

Seeking a balance between making learners more open to their peers and protecting their privacy might be an issue that needs more of the attention of future research. Putting it in different words, it is too much to ask online learners to make their feelings visible by abandoning their backstage area while they experience changes of conceptions or learning transformation, which is the case with metacognitive learning outcomes. To make it easier for them it is necessary to develop secure and trustworthy learning environments where they can perform their real identities without fearing being undermined. To conclude this paragraph, let the words of the participants summarize it: “I’m more comfortable in discussing ideas with my peers when I develop friendships with them… sometimes I get apprehensive about asking questions with someone whom I’m not close to” (Zak).

Developing trust among a global group of people seems to be a highly challenging task. Learning designers might consider investing in one-to one communication to develop trust. Some of the student participants implicitly suggested this. For instance, Lisa’s search for a ‘learning pal’ to share her ignorance with, Jane’s fear of developing a post or response that is not smart, and Lilly’s approach to learning by doing reflections on peers’ posts alone. They all suggest that it might be of value to incorporate some one-to-one communication channels in the online learning spaces.

Considering that online learning attracts global learning communities, the challenge of meeting the different needs of varied cultures should never be underestimated. A valid recommendation might be to focus future research attention to meet this challenge.

Another recommendation of this thesis research is for future research to satisfy the need to reach a consensus about a definition of social presence, at least for online learning contexts. Further, some level of consensus is needed on valid approaches to measure social presence. One of the lessons learned through this thesis journey was that social presence is a

complicated and elusive concept. This might be attributed to the fact that a variety of research fields are interested in the concept, and of course each research field has its own perspective. However, it might also be attributed to the sophistication of human behavior and in the particular case of online contexts, to the complicated ways in which people adapt in new environments.

When approaching complicated phenomena, not only is flexibility needed, but also more emphasis should be given to the voice of the performer of the phenomenon rather than the researcher. As a researcher, these were the greatest lessons that I learned through this thesis journey. The flexibility of the methodological approach was manifested through the choice of semi-structured interviews, and prompts used to extract participants' views and feelings towards the online learning experience. Further, the thematic analysis that does not use preset indicators is another means for flexibility. This should not imply that research in this field might not use less flexible approaches, rather it implies that explorative research, which is the case here, needs high levels of flexibility.

In this research study, participants were invited to reflect on their learning experiences through semi-structured interviews. On the other hand, the aims of the research were directed towards two complicated concepts; social presence, and metacognition. The findings suggested limited evidence of socially shared metacognition. Actually, this might be because it is hard to remember the details of such complicated experiences after a while. This implies that it might be worthwhile to consider analyzing messages of discussion tasks and learning logs of learners as an approach for new research in this field, in addition to semi-structured interviews.

As with all case study research approaches, one of the limitations of this study is lacking generalizability. For instance, it should be emphasized that both student and tutor participants in this case study have developed highly reflective skills due to the nature of their study and their profession. Hence, the findings revealed here might be difficult to reveal with other

participants lacking such skills. Nonetheless, the varied cultures of the globally dispersed participants make the findings more likely to provide insight about what counts universally in developing online learning environments that have the potential to harness deep learning outcomes. Further, the explorative nature of the thesis project provides insights about the concept of social presence and how it is related to other concepts such as identity performance.

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# APPENDIX: Forms of the Ethical Process

## Participant Consent Form:


**Committee on Research Ethics**

**PARTICIPANT CONSENT FORM**

**Title of Research Project: Exploring the relations between the 'Social Presence' and Individual and Social/Shared Metacognition in learners within online contexts.**

**Researcher(s): Rowaida Mustafa Jaber**

| | **Please initial box** |
|---|---|
| 1. I confirm that I have read and have understood the information sheet [dated 5th January 2015] for the above study. I have had the opportunity to consider the information, ask questions and have had these answered satisfactorily. | ☐ |
| 2. I understand that my participation is voluntary and that I am free to withdraw at any time without giving any reason, without my rights being affected. In addition, should I not wish to answer any particular question or questions, I am free to decline. | ☐ |
| 3. I understand that, under the Data Protection Act, I can at any time ask for access to the information I provide and I can also request the destruction of that information if I wish. | ☐ |
| 4. I understand that confidentiality and anonymity will be maintained and it will not be possible to identify me in any publications. | |
| 5. I understand and agree that once I submit my data it will become anonymised and I will therefore no longer be able to withdraw my data. | |
| 6. I agree to take part in the above study. | ☐ |

To indicate that you consent to take part in this research please email Rowaida Jaber at the email address: rowaida.jaber@online.liverpool.ac.uk stating "I consent to take part in the research titled: Exploring the relations between the 'Social Presence' and Individual and Social/Shared Metacognition in learners within online contexts"

| Rowaida Jaber | 05-01-2015 | Rowaida |
|---|---|---|
| Researcher | Date | Signature |

Researcher email: rowaida.jaber@online.liverpool.ac.uk

Supervisor: Eileen Kennedy; email: Eileen.kennedy@online.liverpool.ac.uk

**[Version2. 5 January 2015]**

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Version 2.1
June 2013

## Participant Information Sheet


**Participant Information Sheet**

**Research Project Title:**
**Exploring the relations between the 'Social Presence' and Individual and Social/Shared Metacognition in learners within online contexts.**

**Invitation**
You are being invited to participate in a doctoral thesis research project. Before you decide whether to participate, it is important for you to understand why the research is being done and what it will involve. Please take time to read the following information carefully and feel free to ask me, the researcher, if you would like more information or if there is anything that you do not understand. Please also feel free to discuss this with your friends, relatives and colleagues if you wish. I would like to stress that you do not have to accept this invitation and should only agree to take part if you want to.
Thank you for reading this.

**Purpose**
The proposed research is to be conducted in fulfilment of the requirements of the EdD program at the University of Liverpool. The purpose of this thesis research is to investigate the relations between social presence and the development of individual and shared metacognition, in the hope of contributing to the enhancement of a theoretical framework that describes the online learning experience. Further, the research aims to provide guidance for instructional designers of online learning settings to achieve meaningful and worthwhile learning outcomes.

**Rationale for Your Participation**
You have been chosen to take part in some aspect of the study because you are one of the online doctoral tutors or students because you have volunte
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**Do I have to take part?**
No. Your participation is totally voluntary and even if you begin participation, you are free to withdraw anytime without explanation or penalty. If you choose not to participate, no data related to you or your experience will be used or reported in the research study.

**What will happen if I take part?**
If you choose to take part, some of the data you generate through participation in this research process will be used to compile an anonymous report/analysis and shared with faculty and some doctoral students at the University of Liverpool. Specifically, the data being collected for this analysis include the interviews and discussion you'll have with the researcher and other participants, as well as the researcher's notes and observations all through the interviews. There will be two rounds of interviews for participating students; in the first round each 3 participants are grouped into a 'focus group' to be interviewed together for 45 minutes. The second round of interviews is individual and will last for one hour. As for tutors, only one round of one hour individual interviews will be conducted. All interviews are going to be in a private room where I can have control so that the interview will not be interrupted. Further, the interviews will be audio-recorded. About one week before the interviews, all participants will be provided with a Word document shortly describing an alternative design of the online learning/teaching which will be discussed in the interviews. All communications are via emails and Skype.
All data will be gathered prior to August, 2015, after which time participation in the study will end and no further data will be gathered.

**Risks and Expenses**
The risks that might be encountered due to participating in this research study are minimal such as those

of minor discomforts that are usual in daily life. In focus groups interviews for instance, there is a risk of exposing the identity of the participant and her/his opinions to other group members. Nonetheless, to minimize this risk, interviews of focus groups will be conducted with the ground rule that identities and whatever is discussed in the interview is to be kept confidential by all group members. I foresee no potential physical or psychological risks that might threaten your safety or wellbeing as a result of your participation. However, should you experience any discomfort please inform the primary researcher immediately (contact information below).

**Benefits**
The main benefits of participation in this study will be a chance to reflect on the online teaching/learning experience and to contribute to deeper understanding of the online learning phenomenon.

**What if I have a problem/complaint?**
If you are unhappy, or if there is a problem, please feel free to let me know by contacting Rowaida Jaber (+96279 6899564) and I will try to help. If you remain unhappy or have a complaint which you feel you cannot come to me with then you should contact the Supervisor of this research study via: **Eileen.kennedy@online.liverpool.ac.uk** , or the Chair of the Research Ethics Committee via 001-612-312-1210 or liverpoolethics@ohecampus.com. When contacting the chair, please provide details of the name or description of the study (so that it can be identified), the researcher(s) involved, and the details of the complaint you wish to make.

**Will my participation be kept confidential?**
The researcher will not disclose to any third party, other than those in your focus group, that you participated in this study. All focus group members will be reminded that they should keep the identities and whatever happens in the focus group interview confidential. Any data you generate will be kept anonymous. Anonymisation of data will start after all interviews are conducted. In addition pseudonyms will be used for the protection of participants' identities. Anonymous data generated from participants in this study will be stored for five years. Electronic data will be stored on removable data storage tools (memory stick and external hard disc) and will be kept together with other data documents in a locked closet that only the researcher has access to its key.

**What will happen to the results of the study?**
Anonymous results will be compiled and reported within the University of Liverpool to fulfil requirements for earning EdD degree. Further, the results of the study might be published in peer reviewed journals. Participant data will be made unidentifiable, which means that not only are names removed, but potentially identifying characteristics and demographic information will also be stripped from any shared data.

**What if I stop taking part?**
You may withdraw anytime without explanation. Results up to the period of withdrawal may be used, if you are happy for this to be done. Otherwise you may request that they are destroyed and no further use is made of them.

**Who can I contact if I have further questions?**

- **My contact details are:**

Rowaida Mustafa Jaber, e-mail: rowaida.jaber@online.liverpool.ac.uk, Mobile: 00962 796899564.

- **The contact details of my Research Supervisor are:**
  **Eileen.kennedy@online.liverpool.ac.uk**
- **The contact details of the Research Participant Advocate at the University of Liverpool are**:
  001-612-312-1210 (USA number)
  Email address liverpoolethics@ohecampus.com

Please keep/print a copy of the Participant Information Sheet for your reference. Please contact me, my Research Supervisor and/or the Research Participant Advocate at the University of Liverpool with any question or concerns you may have.

| Rowaida Jaber | 05-01-2015 | Rowaida |
|---|---|---|
| Researcher | Date | Signature |